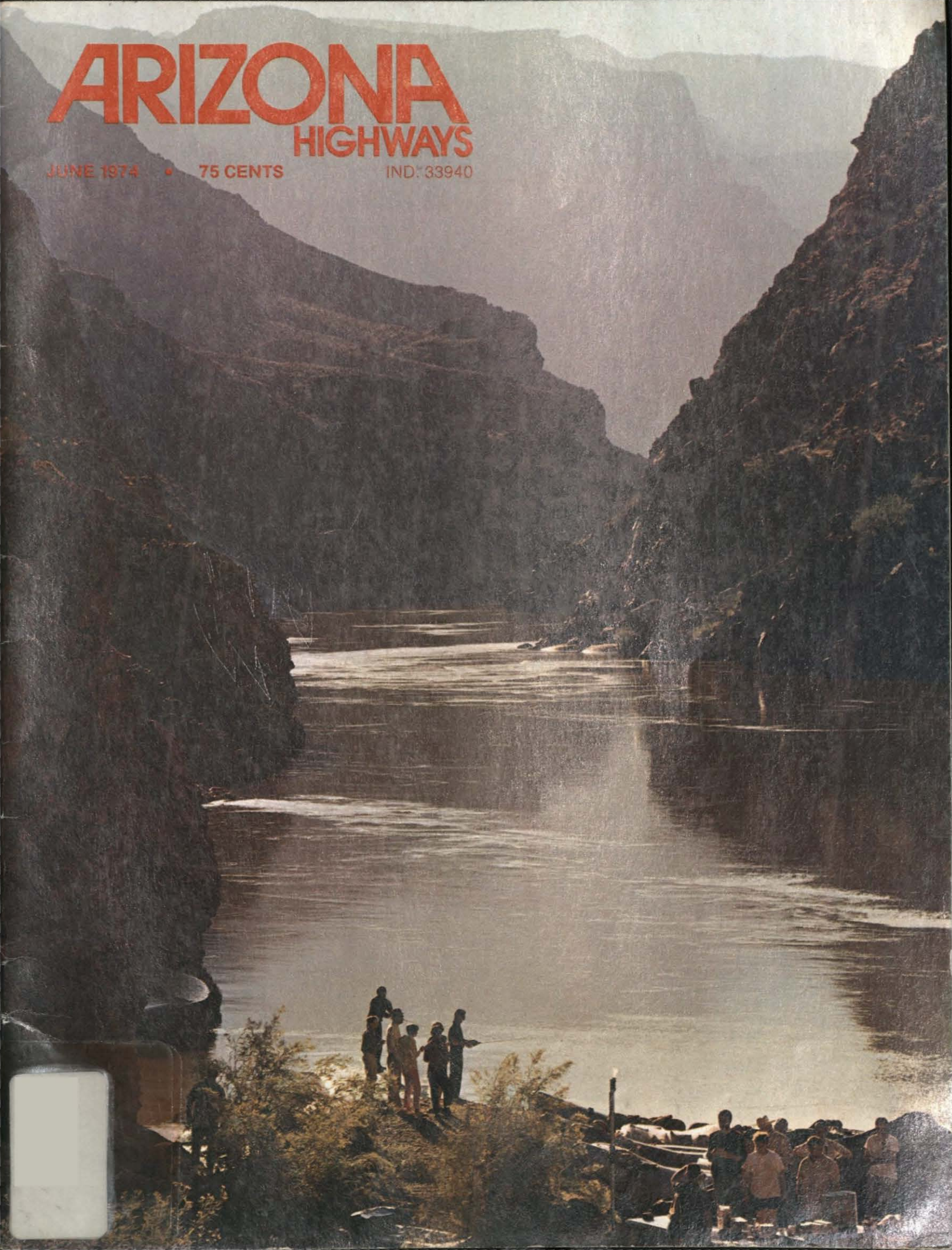


ARIZONA HIGHWAYS

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ARIZONA HIGHWAYS

JUNE 1974

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FRONT COVER

Morning Camp on the Colorado, Grand Canyon.

— DAVID MUENCH

INSIDE FRONT COVER

Golden morning from Hopi Point, South Rim.

— JOSEF MUENCH

Open Roads, Open Eyes, Open Minds

We believe that suffering indignation is one of civilized man's shoddy virtues — such a useless form of martyrdom. We are blessed that the nature of our vocation and avocations afford us the opportunity to hit the road — to open our eyes — to expose our minds to the world and its people. We are involved in too many eye-opening, mind balancing experiences to suffer pains of indignation over matters too remote from our control.

Who can worry about the fools who decry "two and two ain't four any more" or "only them that has, get"? Not we who are deep in the Grand Canyon of the Colorado, witnessing the world's most convincing testimonial of cause and effect and perpetual change. There was nobody around when the Grand Canyon was born and scientists and computers will be dust before all the questions are answered concerning the world's most magnificent geological wonder — attesting to the incomprehensible Power beyond man.

We were here when Sun City, Arizona was born from desert lands and cotton fields. It has succeeded because of a developer's integrity and represents one of man's finest achievements in establishing dignity to a life style formerly associated with indignation.

We get tired of hearing the cynics: "We don't know where we are going — and heaven knows where it will all end." Heaven cares little for those who will not open their eyes. Early in May we attended the Western Heritage Awards Meetings at the National Cowboy Hall of Fame in Oklahoma City. More than 700 guests, trustees and honorees gathered in tribute to those who in one way or another have contributed to documenting and preserving the glorious heritage of the American West. The names of John Wayne, Barbara Stanwyck, Walter Brennan, Gene Autry, and Joel McCrea embellished the program. The dramatic standing ovation acclaim was reserved for 101 year old Edward King Gaylord, who walked briskly to the microphone to acknowledge, in firm clear voice, the honor of being the first living person to be elected to the Hall of Fame of Great Westerners. The famed Oklahoma City newspaper publisher works at his desk five days a week and writes front page editorials.

Our itinerary included air travel to Washington, D.C. and a three day tour of American Historic Shrines in one of the world's most beautiful settings — Virginia's Blue Ridge country. At Culpepper we ate hot-dogs and pop at a Polled Hereford Cow Auction. The day we visited Monticello, home of Thomas Jefferson, we were amazed to learn that every day from 1000 to 1500 people pay an adult fee of \$2.00 each for the guided tour through the 35 room mansion and grounds, designed by Jefferson and built from regional materials. In a little churchyard off a back country road near Charlottesville, millionaire plantation owners joined a group of black friends, neighbors and employees during funeral services for a departed friend, all joining in choruses of "Shall we gather at the river, the beautiful, the beautiful river. Shall we gather at the river, the beautiful city of love." On the flight back to Arizona a Kansas farmer told us he had the best season in 20 years with his hogs.

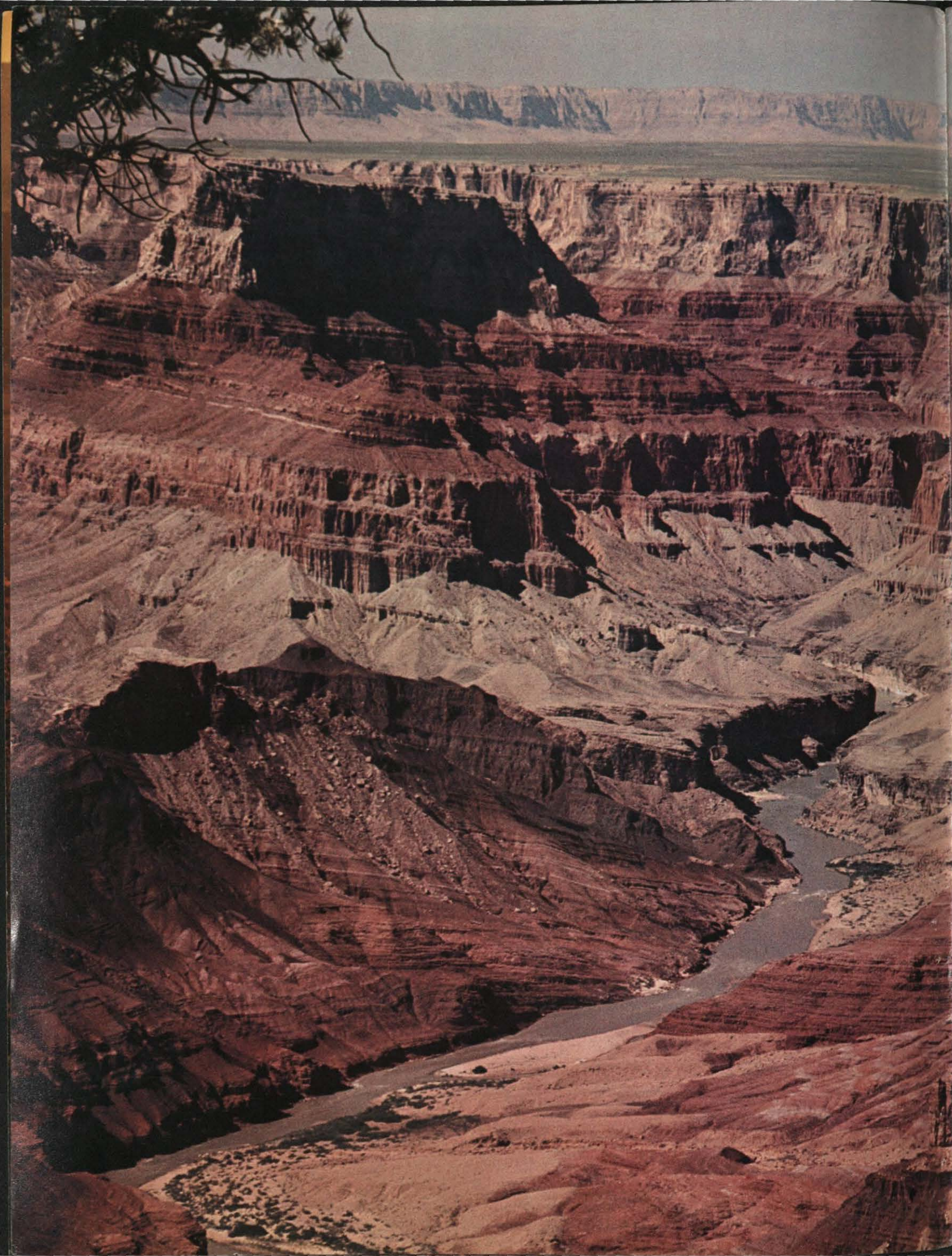
Meanwhile back in Phoenix, it was front page news that 45,000 attended a Billy Graham inspirational at Sun Devil Stadium. There were other headlines, of course, of indignities, chicaneries, hypocrisies, injustices and miseries, which make up the shadow side of life's composition. In five days we had made a round-trip across this continent — a journey which only one hundred years ago would have taken from 100 to 200 days.

In a superlative sense, this may not be the best and greatest world we live in but there is more than enough good, true, real, safe, strong and right for the sun to shine upon. Be patient, be considerate, be understanding, and above all, be grateful.

... open your eyes, open your mind and let the sun shine in.

— JOSEPH STACEY

FOLLOWING PANEL: Splendid panorama of the Grand Canyon from Desert View, South Rim. Note the Colorado River one vertical mile below. — JOSEF MUENCH







PHOTOGRAPHS BY JOSEF MUENCH



ABOVE: *The curtain of a threatening sky closes over the Grand Canyon.*

LEFT: *Thunderheads bring rain to the North Rim while the inner gorge is bathed in brilliant sunlight.*

BELOW: *Compared to summer vacation crowds, few people come to see the Grand Canyon when she is wearing her winter dress. Photographer, Josef Muench, has captured her every season on film for over 20 years, but fog within the great abyss was still another first for him. "It was so beautiful . . . you know for the first time in my life I actually ran out of film."*





Rocky Mountain Maples in Autumn color from Point Imperial, North Rim.

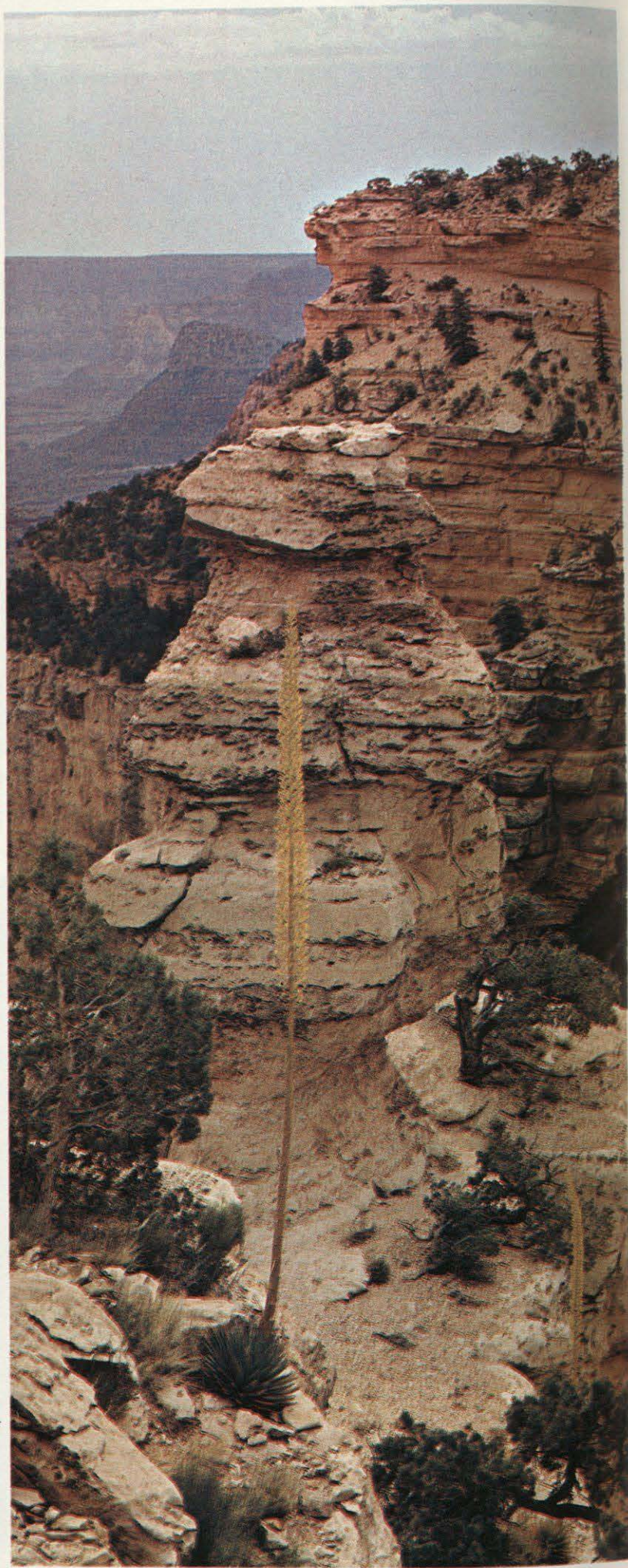
PHOTOGRAPHS BY JOSEF MUENCH

Spring debut of the Prickly Pear on Point Sublime, North Rim.





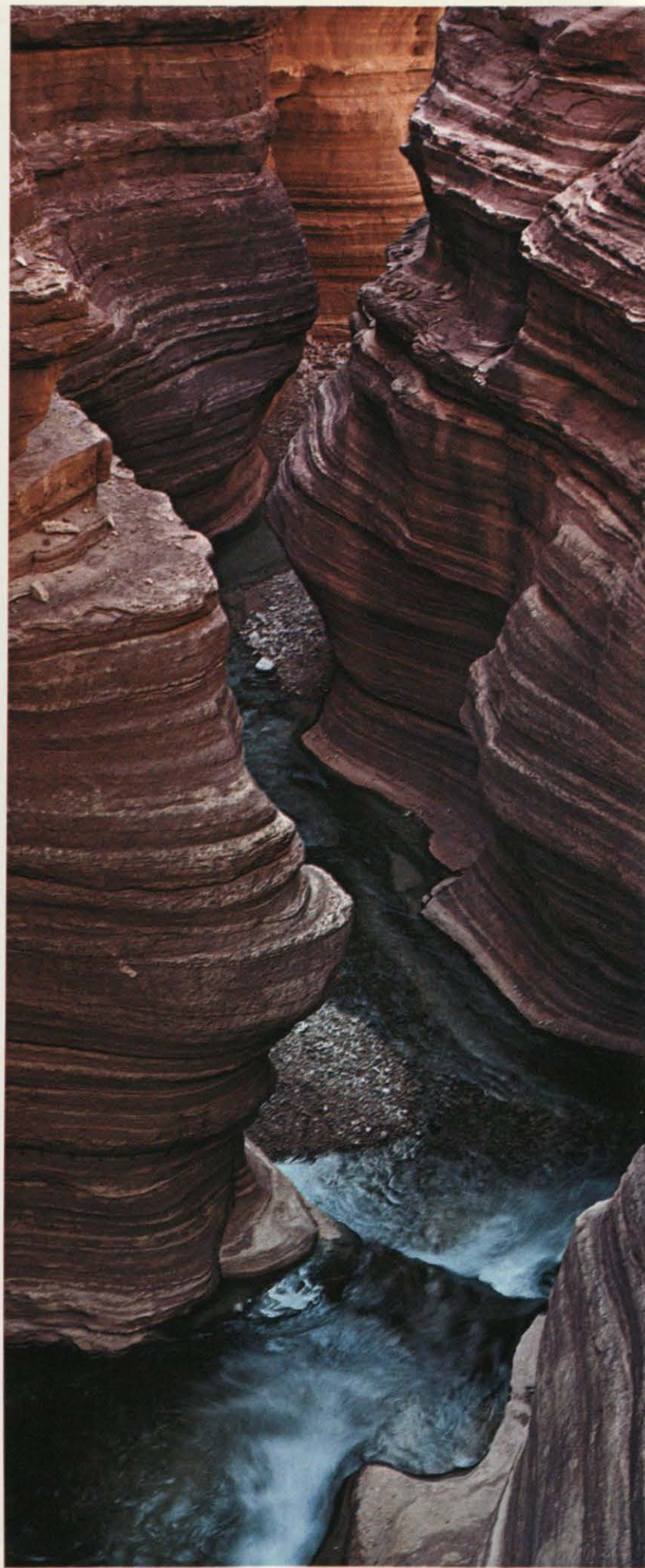
Grand Canyon from Toroweap overlook. — DAVID MUENCH



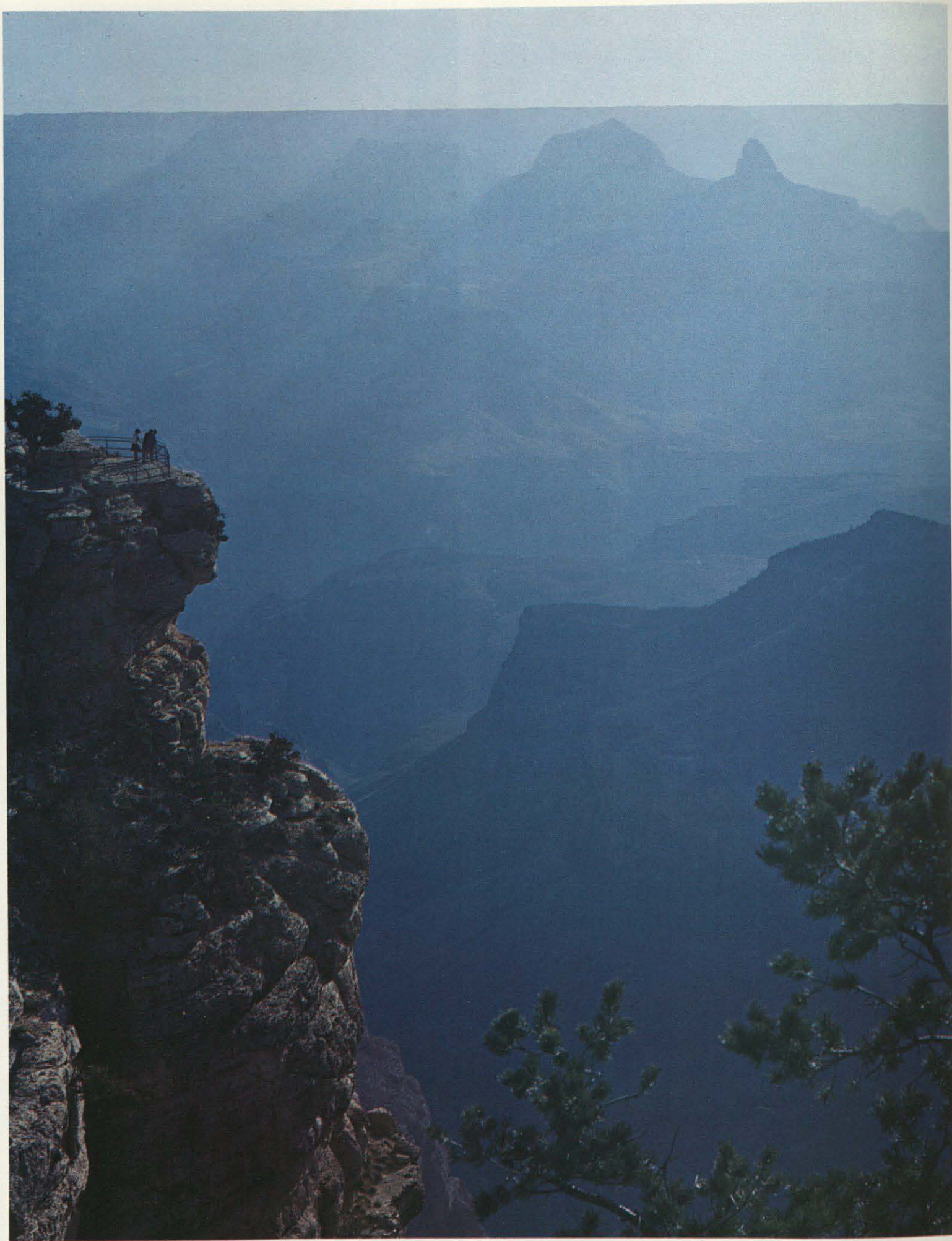
Great pedestals of Kaibab limestone, South Rim. — JOSEF MUENCH



View from Hopi Point, South Rim. — JOSEF MUENCH



Deer Creek Gorge. — DAVID MUENCH



Canyon moods from Mohave Point on the South Rim. — DAVID MUENCH

What is it that makes *this* canyon one we call GRAND? Perhaps the answers are bound up in many questions, for this canyon is complex and full of interwoven threads. One grows in understanding with the canyon — a single visit is only a brief introduction to a lifetime of wonder. Its sheer size perhaps first strikes the mind, for standing on its rims our sense of scale goes awry, and our level world ends precipitously.

That is one secret of these canyons of the plateau country, for they seem to lie in wait for you as you travel across lonely vistas, and then explode on your consciousness. Without warning one confronts an incomprehensible gulf — an inverted mountain — where one looks *down* to a dizzying spectacle. Our sense of proportion is distorted. Pinnacles and buttes beneath us appear no taller than houses; on closer approach they leave us as mere pygmies groping in an abyss.

The Grand GRAND CANYON

By Charles W. Barnes

We can only wonder, today, at how Don García López de Cárdenas, some 430 years ago, must have felt as he was stopped by the most overwhelming chasm ever to have been seen by men from the Old World. His reaction was one of horror and disgust that a life-giving river was so unreachable by horse, and surrounded by desolation of unbelievable magnitude in a parched and dreary land. Consider instead the words of Clarence E. Dutton, an early geologist-interpreter of the Grand Canyon, as he summed up *his* visual impressions:

"... Everything is superlative, transcending the power of the intelligence to comprehend it... The grandest objects are merged in a congregation of others equally grand. Hundreds of... mighty structures, miles in length, and thousands of feet in height, rear their majestic heads out of the abyss... If any of these stupendous creations had been planted on the plains of central Europe, it would have influenced modern art as profoundly as Fujiyama has influenced the decorative art of Japan. Yet here they are all swallowed up in the confusion of multitude."

The Grand Canyon is also one of the most visited places on earth, filled with Indian ruins, tourist crowds, copper mines, and collared lizards. It served and serves as a barrier to migration, as a focal point for rugged adventure, as a magnet for human hardship beyond belief and human folly beyond compare. It attracts boondoggler, bureaucrat, and hero alike, and swallows up human dreams in its awesome size and impenetrable solitude. Yet, the Grand Canyon is more than spectacle, however outsized the scale.

The Grand Canyon is also a biological smorgasbord of life, past and present. Environments include the desert's blistering heat near the river and the whispering winds in the tall pines on the northern margin. A summer's hike into the canyon from the North Rim starts in crisp pine forests and ends among

mesquite and cactus in heat that anoints the weary traveler in kindred perspiration — as well as the sure knowledge that he must climb up a vertical mile and more to reach the cool breezes once again. The canyon is a vertical desert — a slash across a fairly well-watered high plateau — and the home of a stunning array of wildlife. Biologists and naturalists come from around the world to study this vertical array, for a hike up the canyon walls is equivalent in terms of life environments to a stroll from southern Mexico to central Canada! The vast panorama of modern life is matched equally well by the story of fossil life imprisoned in the rocky canyon walls. One may well be faced with standing amidst the remains of ancient algae imprisoned in the rocks deep within the canyon and watching the effortless ease of the canyon jay in the midst of his home — what eons of change lie between these two life styles — and both are a part of the dazzling biologic record of the canyon.

Man, the ultimate lifeform, seems peculiarly out of place in the vast solitudes of the canyon. He is ill-adapted to squander his energies in a wilderness of such merciless unforgiving, and history records relatively little impact of man on the canyon.

Earliest man left his twig-figurines and evidence of cave-shelters, but European man has always been a transient in the canyon, requiring a substantial life-support system for extensive sojourns. The history of the canyon is filled with wrenching stories of those who underestimated its savage power to destroy the unprepared. The roaring, violent river — the penultimate rasp — the carver of canyons — has claimed too many lives of those who have ridden its foaming, silty fury. To one disoriented in the canyon's vastness, death comes in many guises — a sudden fall, an unending thirst, a frozen sleep. Only the Cohonina, Basketmaker, and Kayenta cultures ever called the canyon home, and in time, even they — the "Ancient Ones" — moved on to more hospitable places. For three centuries the canyon knew only silence, broken in the 16th century by the hoofbeats of Cárdenas and his men.

For three more centuries, European man left little record of any interest in the canyon — conquistadores, padres, mountain men — all came and left, and the white space marked "unexplored" on their maps remained. The Colorado seemed destined forever to flow in lonely splendor, its rugged walls both the prison and the hope of a river running wild and free. All was quiet along the canyon until a little over a century ago when a man, both single-minded and single-armed, made the first passage down the roaring Colorado and filled in one of the last blank spots on the western frontier.

The man was, of course, Maj. John Wesley Powell, distinguished geologist-geographer-ethnologist-naturalist-soldier, whose vision and courage matched the challenge of exploration of America's last unexplored vista. Armed with the scientist's vision of what was probable and the prophet's sense of what the Colorado River might mean to the thirsty Southwest, he was the one right man to challenge this lonely cleft, and come away with his answer, and a profound insight, into what makes *this* canyon Grand.

STORIES IN STONE

The Grand Canyon is immense spectacle, human magnet, western adventure, vast resource, and biologic panorama. Above all else, as Powell quickly recognized, the canyon is the single most revealing chronology of earth history known to man. Its walls are a gigantic history book — each layer a page of history of uncounted centuries. The history in these rocks stretches back nearly two billion years, give or take a few *million* years, and encompasses nearly half of the total history of this tired earth — this home to life — this good earth. It is a story which, telescoped together from our human vantage point, seems alien — for the story is of trembling volcanoes, restless rivers, restless sands, restless seas — an incredible tale written one grain of sand, one bit of life, at a time.



Mist shrouded Hayden Mountain.
HERB & DOROTHY MCLAUGHLIN
Grand Canyon North Rim Vista



The story in the walls of the Grand Canyon bears one other resemblance to a book, for it is sharply divided into chapters, and the chapters subdivided into briefer glimpses. In another respect it is a most errant tale, for the story starts in the bottom of the canyon and ends at the top — an adventure equivalent to reading a book from back to front! If we are to share with Powell and the thousands of geologists who have followed him, we must begin at the beginning in our mind's eye, and hike ever upward on the Grand Canyon trails, listening to the stories the rocks have to tell. Let's take such a hike, vicariously of course, and start in the two billion year old rocks in the very bottom of the canyon.

Two billion years! The words roll leisurely from the tongue, yet our consciousness somehow fails to grasp an unimaginable idea. 2,000,000,000 years! Seven hundred thirty billion *days* . . . 20 million *centuries*. Our mind recoils, vexed at our inadequacy. Stand with Major Powell deep in the ancient, craggy glens of the inner gorge — stand and share with him as he contemplates the gnarled black schists of the inner gorge — these mute stones from which the craft of modern geologist-chemists discern a birthday nearly two billion years ago.

"The walls now are more than a mile in height — a vertical distance difficult to appreciate. Stand on the south steps of the Treasury building in Washington and look down Pennsylvania Avenue to the Capitol; measure this distance overhead, and imagine cliffs to extend to that altitude, and you will understand what is meant. . . .

A thousand feet of this up through granite crags; then steep slopes and perpendicular cliffs rise one above another to the summit. The gorge is black and narrow below, red and gray and flaring above, with crags and angular projections on the walls, which cut in many places by side canyons, seem to be a vast wilderness of rocks. Down in these grand, gloomy depth we glide, ever listening . . ."

Listening . . . ever listening. What have these ancient stones to say? Even their names are a struggle to the European tongue — the Vishnu Schist — the Zoroaster Granite. What strange twilight of the earth do they represent? Was it twilight or *Gottterdammerung*? Patient men who study the earth tell us these ancient twisted rocks record a commotion deep within the primeval earth — an earth which had actually reached middle age. This disturbance within the earth, known more correctly as *metamorphism*, records titanic forces which pushed and shoved solid rocks around like silly putty in a child's hands. Massive invasions of molten granite date from the same fiery time — the canyon's "birthday" records unrest within the earth on a monumental scale. The inner canyon visitor sees this handiwork today as a delicate tracery of pink granite through somber walls of greenish-black glistening schist.

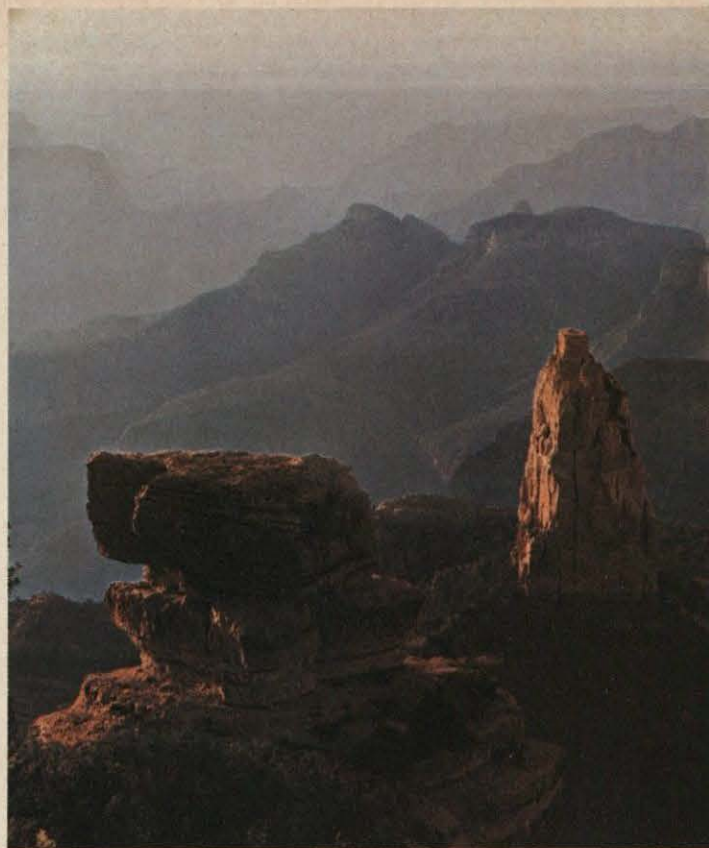
The trained eye of the geologist reads in these somber walls a violent beginning to this Grand Canyon land — but it was a story written *deep* within the earth. Miles above, the ancient skies were blue, the sun was shining, but the earth was racked with paroxysmal earthquakes of the sort that beleaguer modern southern California as the subterranean processes ground slowly to a time of rest.

And what a snooze it was! For nearly a *billion* years elapse before the rocks of the canyon begin to spin their song again. We have only begun to read the stories in stone, and already a mighty chunk of the tale is gone! It is as if Greco-Roman history was followed by the Renaissance! For the events of perhaps hundreds of millions of years — the record is gone — the rocks worn away — and what is left is an old erosion surface — a feature geologists call an *unconformity*. The mind and eye wander back over unimaginable time — mountains, volcanoes, seas, deserts — they all may have been here — but they are gone. The ceaseless work of wind, water, and that patient giant, gravity, wore away the rocks overlying the ancient Vishnu and Zoroaster and cut deeply into them.

Text continued on page 13



Ribbon in time, Desert Tower — South Rim View.



Castle of the canyon from the North Rim's Point Imperial.

PHOTOGRAPHS BY DAVID MUENCH



The Grand Canyon in transition.

Dimension

From: "Grand Canyon — The Story Behind The Scenery"
Published by KC Publications, P.O. Box 14883,
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THE GRAND CANYON

Length: 217 miles (349 kilometers) measured along the Colorado River.
Width: 4 to 18 miles (6.5 to 29 kilometers) with an average width of 9 miles (14.5 kilometers).
Depth: Average, vertical, 1 mile (1.6 kilometers or 1,609 meters).
From North Rim: 5,700 feet (1,737 meters)
From South Rim: 4,500 feet (1,372 meters)
Elevations: Difference between North and South Rims, 1,200 feet (366 meters).
North Rim about 8,200 feet (2,500 meters)
South Rim about 7,000 feet (2,134 meters)
Tonto Plateau about 4,000 feet (1,219 meters)
Canyon Floor at Kaibab Suspension Bridge 2,500 feet (762 meters).

THE COLORADO RIVER

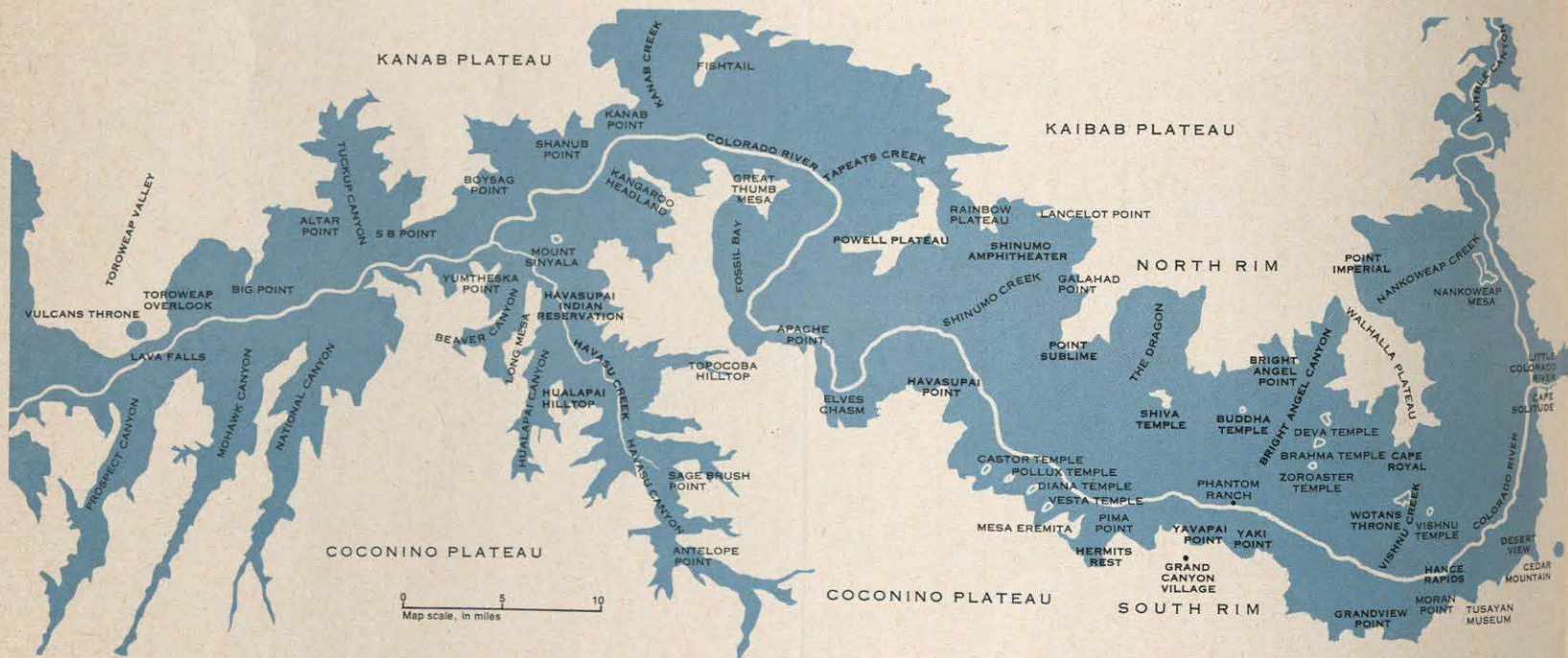
Length: About 1,450 miles (2,334 kilometers).
In Grand Canyon National Park 105 miles (169 kilometers).
In Grand Canyon National Monument or adjacent to its boundary 40 miles (64 kilometers).
19 major canyons in the river's course.
About 365 rapids along the river, with 70 major ones in Grand Canyon.
Width: Average is about 300 feet (91 meters).
Descent: From 10,000 feet (3,048 meters) to sea level. Formerly dropped 1,810 feet (552 meters) in Grand Canyon, now drops 1,515 feet (462 meters) to level of Lake Mead.

GRAND CANYON NATIONAL PARK

Established by Act of Congress signed by President Woodrow Wilson on February 26, 1919.
Area measures roughly 56 miles long by 22 miles wide and includes 1,052 square miles or 673,575 acres.
Administered by the National Park Service, United States Department of the Interior.
North Rim is open mid-May to mid-October.
South Rim is open all year.
Includes most spectacular portions of the Grand Canyon.

GRAND CANYON NATIONAL MONUMENT

Established December 22, 1932.
Adjoins Grand Canyon National Park to the west and includes 310 square miles or 198,280 acres.
Accessible only over primitive roads from north side of canyon.
Includes recent volcanic features. Lava flows which dammed the Colorado River temporarily are now seen as rapids in the river.
View from Toroweap overlook to Colorado River 3,000 feet directly below is magnificent.



End of the Little Colorado, beginning of the Grand Canyon. HERB & DOROTHY MCLAUGHLIN



Around a billion years ago, some 12,000 feet or more (that's a stack over two miles high!) of fine-grained sandstones, siltstones, and shales were deposited on this old erosion surface. These rocks, exposed as isolated wedges largely in the area near Desert View, record the end of the beginning — an immense period of time stretching from the formation of the earth over 4½ billion years ago to about half a billion years ago. This immense period of time — 4,000,000,000 years, is the *Precambrian Era* in geological language. The Vishnu and Zoroaster rocks of the Inner Gorge record a part of the middle part of this era, followed by eons of erosion. The two mile pile mentioned above documents the *end* of an era.

The rocks of the Grand Canyon have already brought us through more than three-quarters of all earth history — yet — if we imagine ourselves hiking ever upward, we have barely cleared the Inner Gorge! Three to four thousand feet of sedimentary rock lie above us, patiently revealing another whole chapter in earth history. Before we plunge on, listen to another story from the stones.

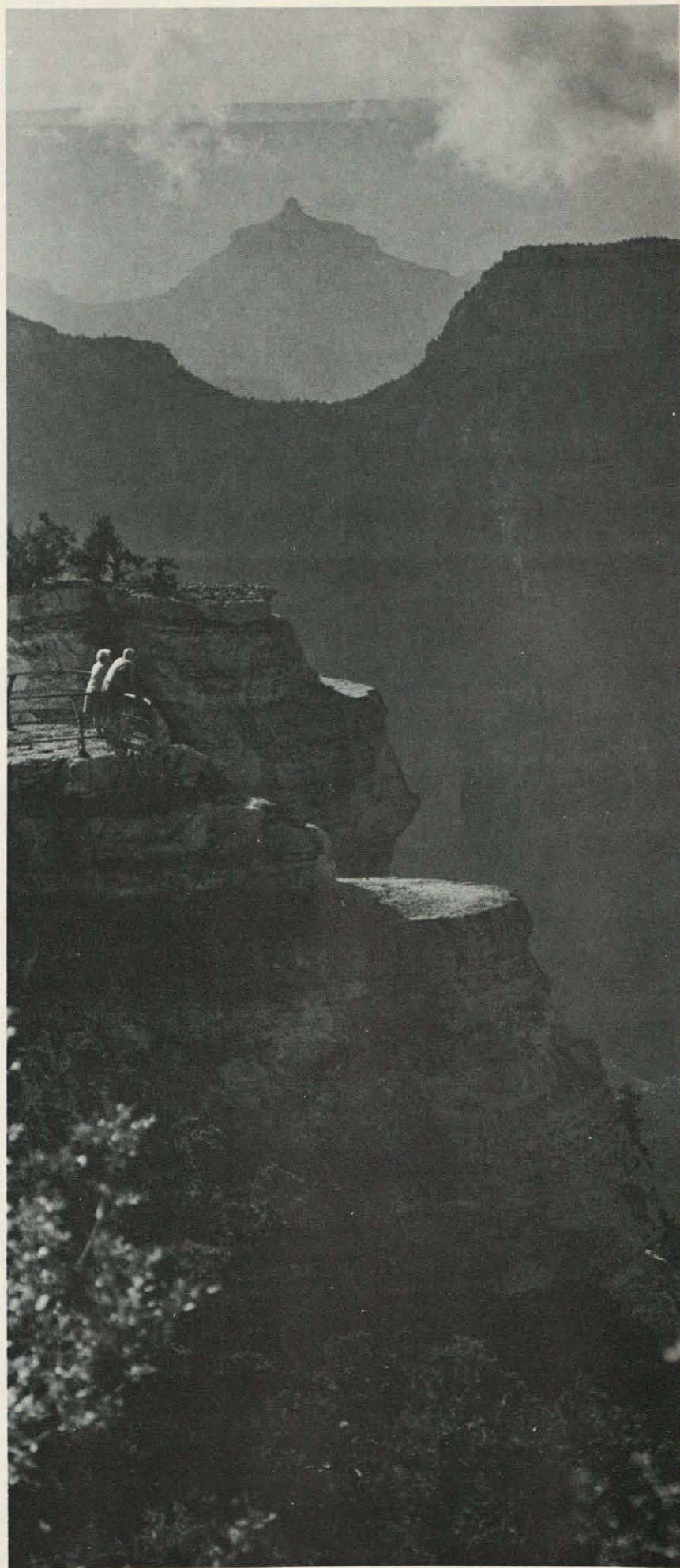
The two mile wedge of sedimentary rocks we have just mentioned, (called the Grand Canyon Series) lie across steeply tilted ancient igneous and metamorphic rocks, and are themselves somewhat gently tilted. Not only do they bury an old erosion surface, but they are also cut at their top by another erosion surface — known to Grand Canyon buffs as the *Great Unconformity*. This younger of the two unconformities is one of the most spectacular geologic exhibits in the walls of the Grand Canyon, and can be traced throughout much of the Park. It is often a relatively flat surface, marking the tops of Precambrian rocks everywhere, but in numerous places ancient hills nearly 800 feet high are covered by the overlying sediments. One can imagine a sea advancing (for the overlying rocks are of marine origin) across a moderately rugged area — looking perhaps like much of southern Arizona.

Early geologists who examined many of these localities could picture angry waves dashing against granite cliffs — listen to one early description:

“ . . . on the south wall of Hotauta Canyon one can imagine an island, undercut by the waves of the sea . . . (preserving an) old sea cliff (at the base of which) huge angular blocks of . . . quartzite are incorporated in the sandstone in places where they fell and lodged; farther out lie masses of boulders, worn and rounded by the pounding of the waves; and these boulders run into lenses of fine pebbly conglomerate, representing the shingle of the ancient beach, dragged out by the undertow.”

Imagine the rocky battlements of a Maine seacoast in the Grand Canyon! Yet that is the story that is plainly told. The sea is coming! The sea is coming! Rocky crags are slowly worn down as the restless waves grind fine, and slowly bury the old landscape under a mantle of clean, white sand — the likes of which would be the envy of any beach party. A new era has dawned, aptly named the *Paleozoic Era*, or the time of early life. Life! Yes, the rocks above our heads are full of life! While the fossil forms in the Precambrian sediments are simple (largely algae), the fossil life above our heads is abundant and complex.

The Great Unconformity must represent an enormous period of time — time sufficient to wear down mountains perhaps higher than the Sierra (and of similar fault-block origin) and strip away thousands of feet of rock. Then, in comes the roiling sea, slowly inching its shoreline eastward as millions of years come and go quietly. In the sea — life! Occasional trilobites, a complex crab-like animal, reward the patient fossil hunter. Life! A threshold has been crossed! As we step through the Great Unconformity, the hike takes less than a minute, but we have crossed a record of a lost 100,000,000 years or so, and witnessed the sudden emergence of complex lifeforms in a sea-deposited sandstone.



As we climb slowly upward through the sandstone, called Tapeats, we quickly came to the broad, flat Tonto Platform which marks the contact with the Bright Angel Shale — an easily weathered unit. What strange names the pages of our history book have — Zoroaster, Vishnu, Tapeats, Bright Angel — but these are the records left to read. Ours is a defective book as well — a basket case — for huge gaps are gone, and what is left resembles a jerky home-made movie. Erosion is a vicious and careless editor; many examples of its carelessness with the stuff of history lie ahead.

Above the Bright Angel Shale is the Muav Limestone, and the pensive hiker may well recognize that he has walked through marine deposits of ever-deepening water. Stand on a Muav rock, and dream of Bermuda, with deep blue water, and you have the image the rocks reveal. Bermuda in Arizona? But is that stranger than a Maine seacoast? Ahead are limestones — hundreds more feet of them — and the names are again a part of the lore of the canyon — Temple Butte — and the shattering vertical face of the Redwall Limestone looms above. Limestones — all told nearly 1000 feet of them — are the dominant feature of the “middle” part of the canyon walls. Yet each of the three limestones tells a different tale — the lowest (the Muav) suggests deep water marine environments — the middle (the Temple Butte) suggests tidal channel deposits — the upper (the Redwall) represents a complex

history of rising and falling sea levels, and each of the three is separated from its neighbor by yet another (although much less spectacular) unconformity. We are more than mid-way through the Paleozoic Era now, and our history book remains as flawed as ever!

Limestone! What would the Grand Canyon be like without limestone! The Redwall receives its name from its appearance — a vertical cliff face, nearly 500 feet high of red rock, which successfully defies the effort of any hiker to take “shortcuts” in the Grand Canyon! What a story is imprisoned in these limestone ramparts — for they are the vertical graveyard of millions of centuries of life.

Billions of years ago, not long after the primordial earth sported a solid shell, the miracle of life transfigured the lifeless earth. The life was terribly small, simple, but rugged and full of possibility. Over the eons, these simple floating cells organized into colonies and began to fashion limy skeletons and shells. After death, their bodies drifted to the sea floor as a gentle white rain of limy shells. Time and a little pressure did the rest. Think of the half a thousand feet or more of limestone in the central walls of the Grand Canyon — then think of this band stretching throughout the over two hundred mile length of the canyon and far beyond — and finally think of this vast accumulation of lime as the graveyard of little lives whose numbers defy human comprehension — and you will have understood another of the canyon’s secrets.

U.S. Geological Survey

Annual Report 1881 PL. XXII



Land of the standing rocks.



Magic land of endless wonders. — HERB & DOROTHY MCLAUGHLIN

Trudge upward above the battlements of Redwall, and the world changes abruptly, for we have crossed yet another erosion surface — this one marking an ancient landscape pockmarked with caverns into the limestone. Think now of the Grand Canyon country with a climate and landscape like Kentucky's and you will be close. What a pot-pourri of geography has passed beneath our weary feet! Rocky granite seashores, sandy beaches, deep blue ocean water . . . and now in the red rocks around us we must think of ancient streams, floodplains, and deltas in a savanna-type environment. The 1000 feet or more of red rocks which stretch above our head comprise the Supai Formation and the Hermit Shale, and document an abrupt change, for we have been climbing through ocean-laid rocks since we climbed out of the Inner Gorge. These soft red rocks have made two major contributions to canyon scenery — staining the light gray limestones beneath them red on their surface (hence the name Redwall) and making gentle canyon slopes in vivid contrast to the sheer cliffs of lime below and sand above.

The Canyon walls, then, are a series of giant steps. Rising from river level, the ancient metamorphic and igneous rocks of the Inner Gorge plus the Tapeats Sandstone make the first great cliff, broken by the broad apron of Bright Angel Shale and Muav. The Redwall makes the next stairstep, and the Supai and Hermit red rocks make the next gentle slope. Rest no longer, canyon hiker! The great white cliffs of Coconino Sandstone and Toroweap rocks lie ahead!

Ahead and above the world is off-white, the rocks freed from the plague of red that deluges the rocks beneath in every rainstorm. There is sand — more sand — and still more sand everywhere, and the layering sweeps across at crazy, long sweeping angles. We stand in the midst of an ancient sand dune field, and the world must have looked like the modern Sahara Desert. What world is this? It is a world of scampering reptile feet, whose tracks and footprints can still be seen, and a world of violent wind and sand. Some 200,000,000 years ago little lizard feet scampered here across the great white, lonely sand dunes where now our feet are placed — we scamper but little now.

Five hundred feet or so of sandy limestone separate us from the cool breezes at the top. What an odyssey we have been on! Hours ago we stood among ancient, gnarled rocks

in the Inner Gorge — a twisted record of titanic forces in the earth's early days. Seas have come and gone, desert winds have blown, rivers have slumbered, uncounted trillions of trillions of little lives have been lived out with towering walls of limestone their sepulchral home. Now we exult as the top is in sight — the Toroweap and Kaibab Formations mark the end, as well as a recognition that the sandy Saharan-desert of the white sands below us, was buried once again by the roiling sea, and the gentle rain of lime started once again.

We have passed through half of our earth's genealogy in but a few hours of upward toil.

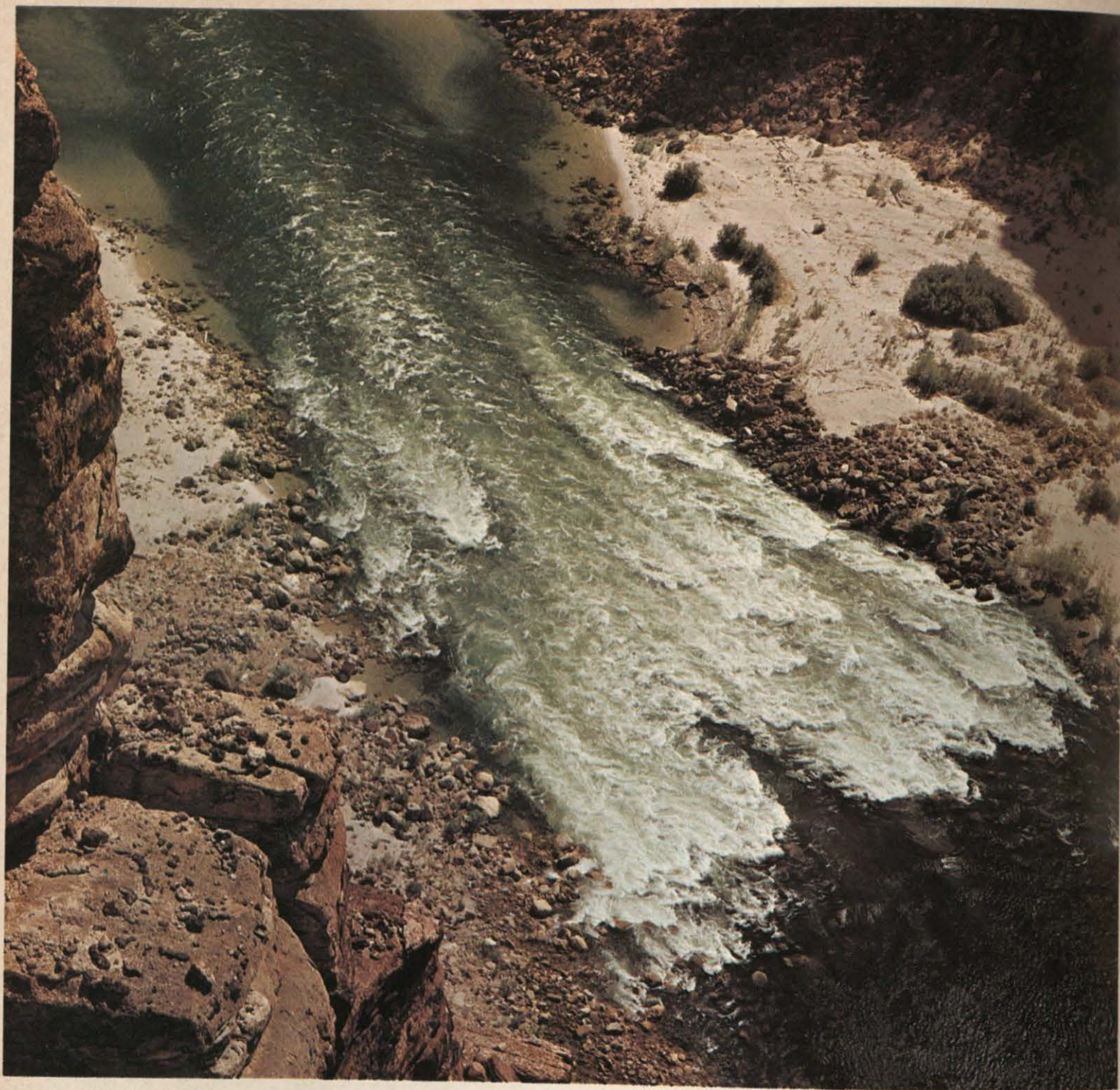
Below us the imprisoned river toils at digging a *deeper* furrow, and we think of the *horizontal* record in these walls — a 200 mile long panorama of gradual change as ocean gives way to beach which gives way to river and shifting sands.

The Grand Canyon stands as an awesome record of the stuff of much of earth history. Erosion has erased the last couple of hundred million years of history — these are faithfully recorded in Zion and Bryce Canyon National Parks to the north. What is left is a vertical newspaper — a chronicle of ceaseless change. The earth is somehow always in a process of becoming . . . even the Colorado River itself is an example, for it is a newcomer to this land from *only* a few tens of millions of years ago.

In its own solitary way, the Grand Canyon is extraordinarily beautiful — nature's ultimate achievement with time and water. The grandeur is of a scale so colossal that it somehow suggests design beyond the ken of transitory man — for the river flowed before there *was* man, and the vast thrusting panorama reflected sunsets beyond counting.

But only man could be drawn here because there were fresh ideas to be gained, and vast dramas to be understood. Only man, confronting the timeless walls of *this* canyon could understand that the earth is still in the act of becoming. Only man could see rocks and envision oceans; only man could touch limestone and read the epitaphs. Only man could understand what makes *this* canyon grand, for without man there *was* no history and the rocks under a million fading sunsets stood timeless and silent.

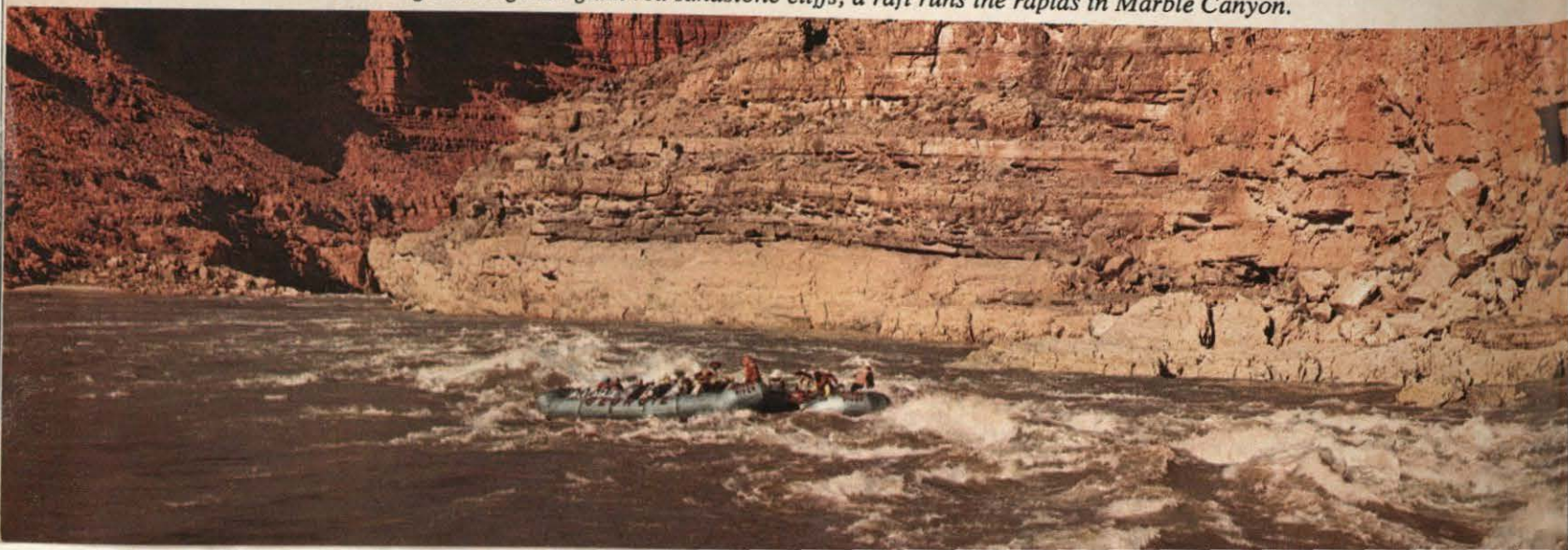
This canyon mirrors a century of man's restless search for understanding — the result is 20 million centuries of tumultuous history. No wonder we call *this* canyon grand! □ □ □

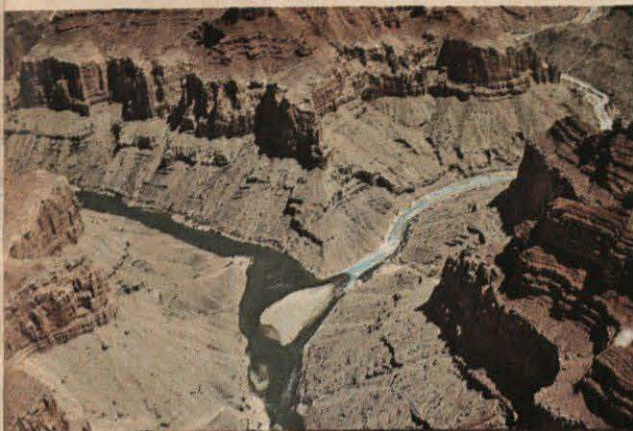


Badger Rapids in Marble Canyon.

PHOTOGRAPHS BY JOSEF MUENCH

Looking small against giant red sandstone cliffs, a raft runs the rapids in Marble Canyon.

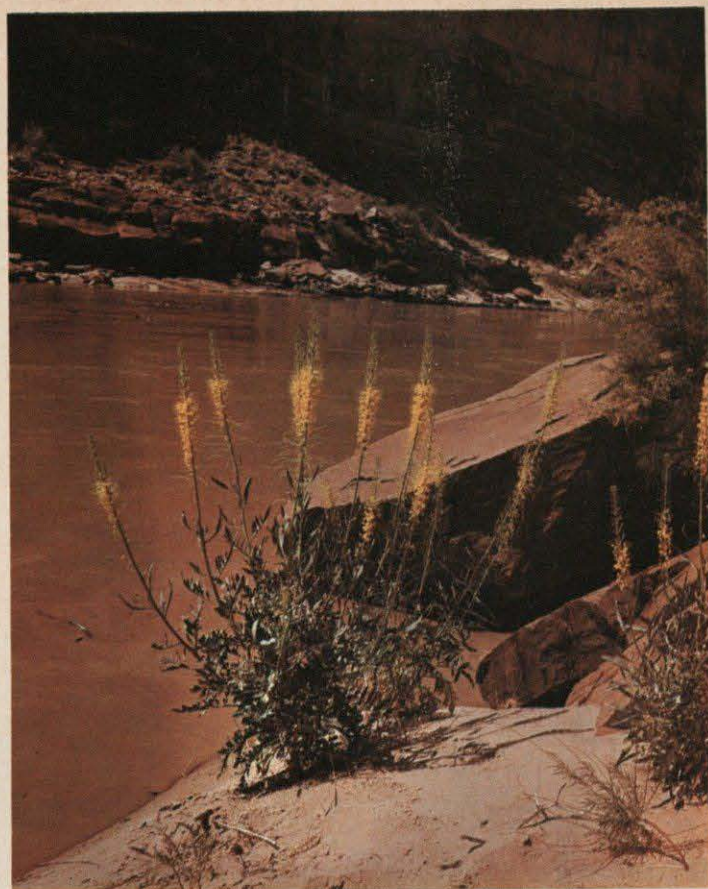




JOE
MASKASKY



PHOTOGRAPHS BY JOSEF MUENCH
(Except where indicated)



ABOVE: *Princess Plume* (*Stanleya pinnata*) dance in the spring breeze and provide a bright color contrast to the brown waters of the Colorado River.

LEFT: (Also aerial photo upper left): Except during silt-laden flood times, heavily mineralized spring waters cause this beautiful aquamarine coloring in the Little Colorado River where it enters the main channel.



The inner confines of Marble Canyon.

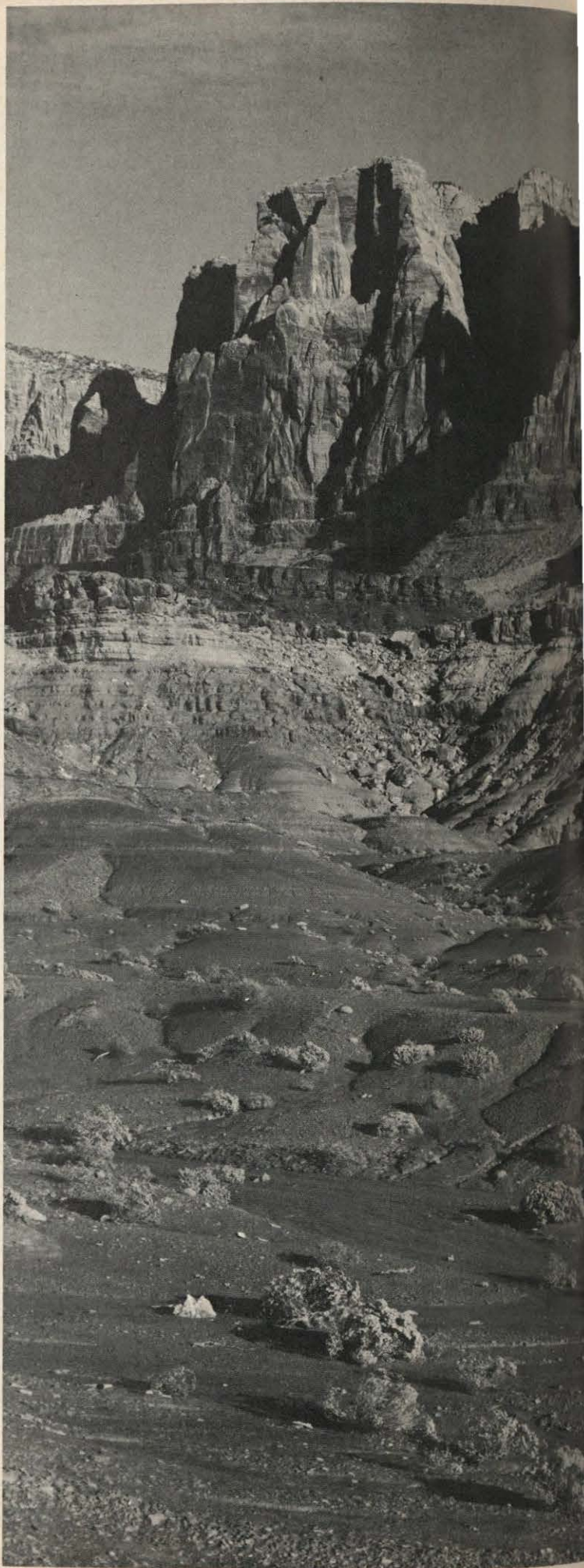
THE VERMILION CLIFFS

To this great wall, terminating the Triassic terrace and stretching from the Hurricane Ledge to the Paria, Powell has given the name of The Vermilion Cliffs. Their great altitude, the remarkable length of their line of frontage, the persistence with which their proportions are sustained throughout the entire interval, their ornate sculpture and rich coloring, might justify very exalted language of description. But to the southward, just where the desert surface dips downward beneath the horizon, are those supreme walls of the Grand Cañon, which we must hereafter behold and vainly strive to describe; and however worthy of admiration the Vermilion Cliffs may be we must be frugal of adjectives, lest in the chapters to be written we find their force and meaning exhausted. They will be weak and vapid enough at best. Yet there are portions of the Vermilion Cliffs which in some respects lay hold of the sensibilities with a force not much less overwhelming than the majesty of the Grand Cañon; not in the same way, not by virtue of the same elements of power and impressiveness, but in a way of their own and by attributes of their own. In mass and grandeur and in the extent of the display there is no comparison; it would be like comparing a private picture gallery containing a few priceless treasures with the wealth of art in the Vatican or Louvre.

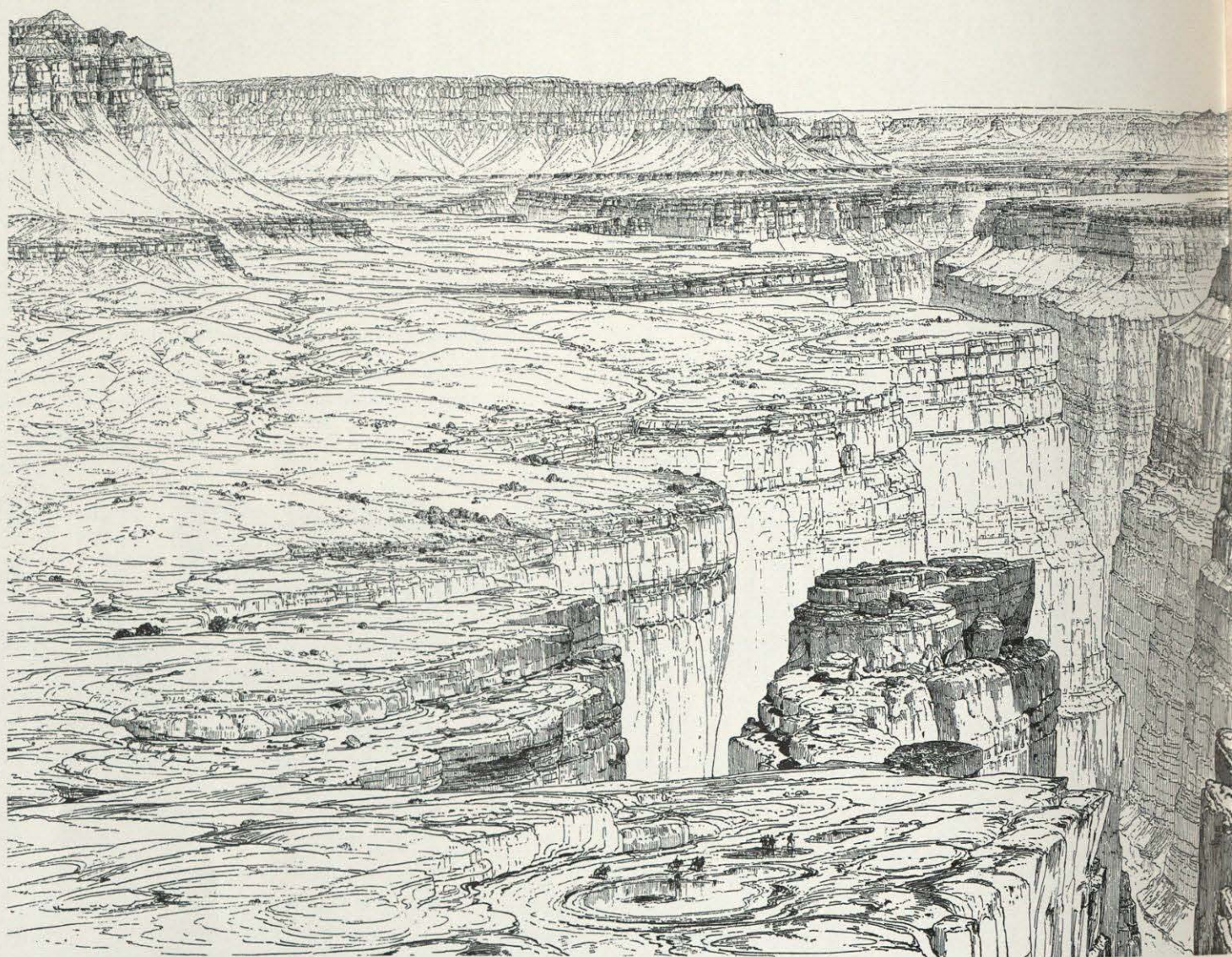
The profile of the Vermilion Cliffs is very complex, though conforming to a definite type and made up of simple elements. Although it varies much in different localities it never loses its typical character. It consists of a series of vertical ledges rising tier above tier, story above story, with intervening slopes covered with talus through which the beds project their fretted edges. The stratification is always revealed with perfect distinctness and is even emphasized by the peculiar weathering. The beds are very numerous and mostly of small or moderate thickness, and the partings of the sandstones include layers of gypsum or gypsiferous sand and shale. The weathering attacks these gypseous layers with great effect, dissolving them to a considerable depth into the wall-face, producing a deeply engraved line between the including sandstones.

Superlative cloud effects, common enough in other countries, are lamentably infrequent here; but, when they do come, their value is beyond measure. During the long, hot summer days, when the sun is high, the phenomenal features of the scenery are robbed of most of their grandeur, and cannot or do not wholly reveal to the observer the realities which render them so instructive and interesting. There are few middle tones of light and shade. The effects of foreshortening are excessive, almost beyond belief, and produce the strangest deceptions. Masses which are widely separated seem to be superposed or continuous. Lines and surfaces, which extend towards us at an acute angle with the radius of vision, are warped around until they seem to cross it at a right angle. Grand fronts, which ought to show depth and varying distance, become flat and are troubled with false perspective. Proportions which are full of grace and meaning are distorted and belied. During the midday hours the cliffs seem to wilt and droop as if retracting their grandeur to hide it from the merciless radiance of the sun whose very effulgence flouts them. But as the sun declines there comes a revival. The half-tones at length appear, bringing into relief the component masses; the amphitheatres recede into suggestive distances; the salients silently advance towards us; the distorted lines range themselves into true perspective; the deformed curves come back to their proper sweep; the angles grow clean and sharp; and the whole cliff arouses from lethargy and erects itself in grandeur and power, as if conscious of its own majesty. Back also come the colors, and as the sun is about to sink they glow with an intense orange-vermilion that seems to be an intrinsic luster emanating from the rocks themselves. But the great gala-days of the cliffs are those when sunshine and storm are waging an even battle; when the massive banks of clouds send their white diffuse light into the dark places and tone down the intense glare of the direct rays; when they roll over the summits in stately procession, wrapping them in vapor and revealing cloud-girt masses here and there through wide rifts. Then the truth appears and all deceptions are exposed. Their real grandeur, their true forms, and a just sense of their relations are at last fairly presented, so that the mind can grasp them. And they are very grand — even sublime. There is no need, as we look upon them, of fancy to heighten the picture, nor of metaphor to present it. The simple truth is quite enough. I never before had a realizing sense of a cliff 1,800 to 2,000 feet high. I think I have a definite and abiding one at present. □ □ □

Vermilion Cliffs near the Navajo Bridge. — ANSEL ADAMS







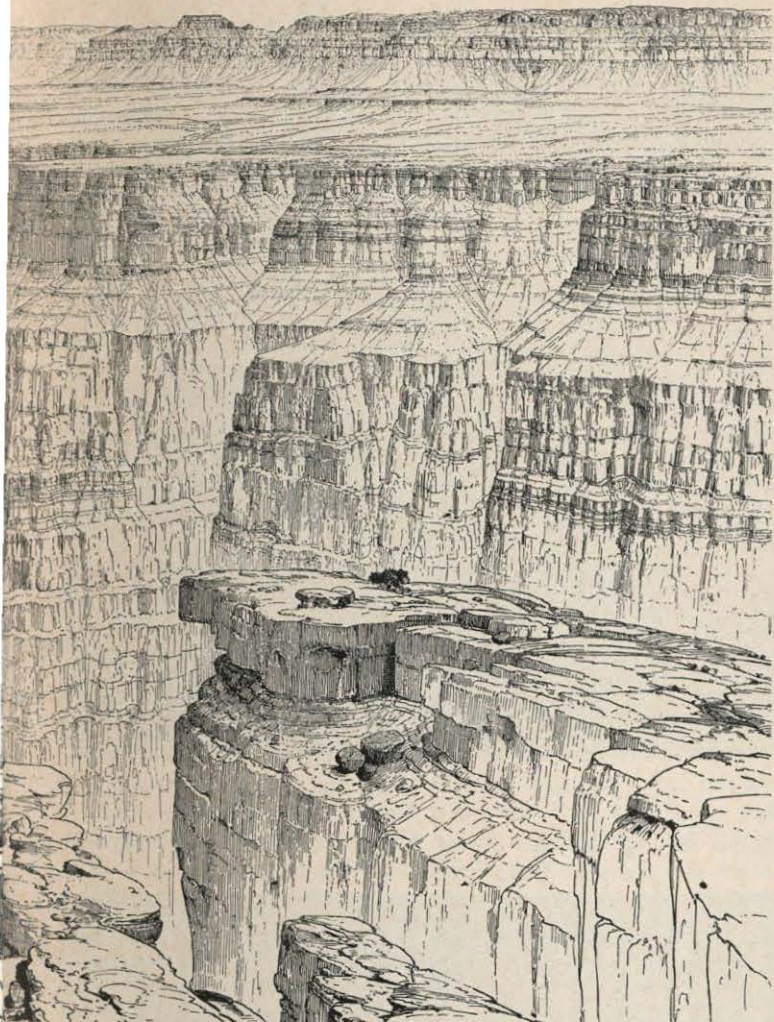
THE TOROWEAP

DRAWINGS BY WILLIAM HENRY HOLMES

At length we approach the lower end of the Toroweap. The scenery here becomes colossal. Its magnitude is by no means its most impressive feature, but precision of the forms. The dominant idea ever before the mind is the architecture displayed in the profiles. It is hard to realize that this is the work of the blind forces of nature. We feel like mere insects crawling along the street of city flanked with immense temples, or as Lemuel Gulliver might have felt in revisiting the capital of Brobdingnag, and finding it deserted. At the foot of the valley the western wall is nearly 1,500 feet high, the eastern about 2,000, and the interval separating them is about three miles. Suddenly they turn at right angles to right and left, and become the upper wall of the Grand Cañon of the Colorado. The Toroweap now opens into the main passage-way of the great chasm. The view, however, is much obstructed. At the foot of the eastern gable is a medley of rocky ledges of red sandstone, while around the base of the western gable are large masses of basalt reaching more than half-way across the valley. In front rises a crater, which is about 600 feet high, seemingly a mere knoll in the midst of this colossal scenery. Beyond it, and five miles distant, rises the palisade which forms the southern upper wall of the chasm, stretching athwart the line of vision interminably in either direction. Its altitude is apparently the same as that of the palisade above us, and its profile is also identical. Climbing among the rocky ledges which lie at the base of the

escarpment, we at length obtain a stand-point which enables us to gain a preliminary view of the mighty avenue. To the eastward it stretches in vanishing perspective forty miles or more. Between symmetric walls 2,000 feet high and five miles apart is a plain, which in comparison with its limiting cliffs might be regarded as smooth, but which in reality is diversified by rocky hummocks and basins, and by hillocks where patches of soil give life to scattered cedars and piñons. Of the inner chasm nothing as yet is to be seen. Moving outward into this platform we find its surface to be mostly bare rock, with broad shallow basins etched in them, which hold water after the showers. There are thousands of these pools, and when the showers have passed they gleam and glitter in the sun like innumerable mirrors. As we move outward towards the center of the grand avenue the immensity and beautiful proportions of the walls develop. The vista towards the east lengthens out and vanishes against the blue ramp of the Kaibab, which lies as a cloud upon the horizon. To the west the view is less symmetric and regular, and the eye wanders vaguely among cliffs and buttes of stupendous magnitude, displaying everywhere the profile with which we have become of late familiar. Much of the distance towards the west is obstructed by the crater, but the portions in view bewilder us by the great number of objects presented, and oppress us by their magnitudes. At a distance of about two miles from the base of the northern wall we come suddenly upon the inner chasm. We are not conscious of its proximity until we are within a few yards of it. In less than a minute after we have recognized the crest of the farther wall of this abyss we crane over its terrible brink and gaze upon the waters of the river full 3,000 feet below.

The Grand Canyon at the foot of the Toroweap, looking east.

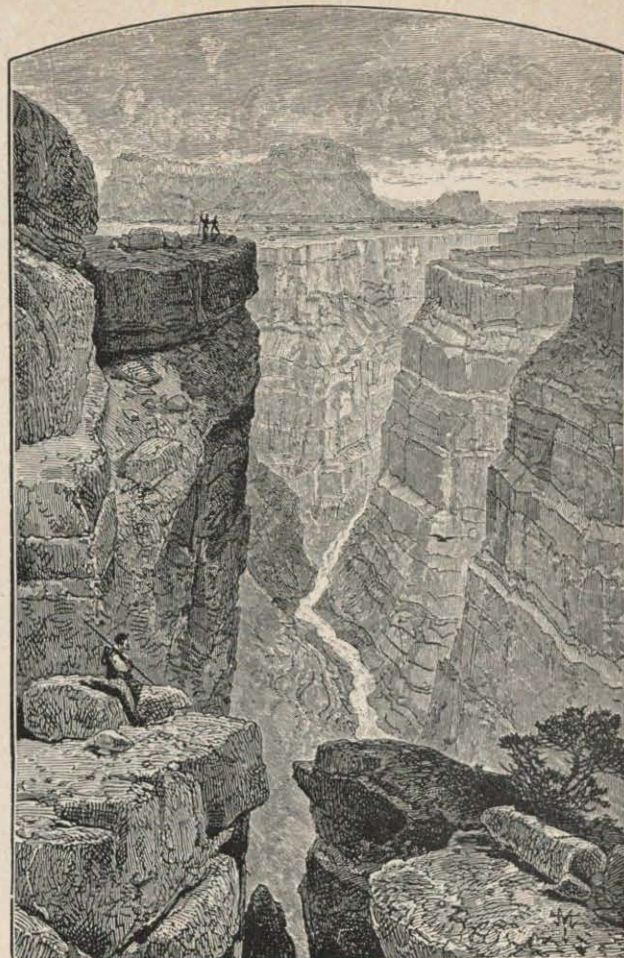


The observer who, unfamiliar with plateau scenery, stands for the first time upon the brink of the inner gorge, is almost sure to view his surroundings with commingled feelings of disappointment and perplexity.

The creations of his own fancy no doubt are clothed with a vague grandeur and beauty, but not with the grandeur and beauty of nature. When the reality is before him the impression bears some analogy to that produced upon the visitor who for the first time enters St. Peter's Church at Rome. He expected to be profoundly awe-struck by the unexampled dimensions, and to feel exalted by the beauty of its proportions and decoration. He forgets that the human mind itself is of small capacity and receives its impressions slowly, by labored processes of comparison. So, too, at the brink of the chasm, there comes at first a feeling of disappointment; it does not seem so grand as we expected.

Perhaps the first notion of the reality is gained when we look across the abyss to the opposite crest-line. It seems as if a strong, nervous arm could hurl a stone against the opposing wall-face; but in a moment we catch sight of vegetation growing upon the very brink. There are trees in scattered groves which we might at first have mistaken for sage or desert furze. Here at length we have a stadium or standard of comparison which serves for the mind much the same purpose as a man standing at the base of one of the sequoias of the Mariposa grove. And now the real magnitudes begin to unfold themselves, and as the attention is held firmly the mind grows restive under the increasing burden. Every time the eye ranges up or down its face it seems more distant and more vast. □ □ □

The brink of the Inner Gorge, looking east.



The foot of the Toroweap, looking west.



"John D. Lee settled here in Dec. 1871 and established a ferry service thirteen months later . . ." proclaims the bronze plaque at Lee's Ferry. Although John Doyle Lee only lived here two years, his oar-driven ferry continued in operation until 1928 . . . and the rugged beauty of Lee's Ferry Recreational Area is forever.

PHOTOGRAPHS BY
HERB & DOROTHY McLAUGHLIN



Pipe Springs--Lee's Ferry



In 1858 a party of Mormon missionaries led by Jacob Hamblin stopped at this place, which offered the only available water for a radius of sixty miles. William Hamblin, a real sharpshooter, wagered he could shoot the bottom out of Dudley Leavitt's pipe at fifty paces. Leavitt placed the pipe on a rock and Hamblin shot the bottom neatly out of it . . . thus the name Pipe Spring. The first telegraph line in northern Arizona was from Kanab, Utah to Pipe Spring.



...as long as space is time

Many remarks have been made about the Colorado and its stupendous canyons, not all of them complimentary. There is the quoted statement of the thirsty pioneer who, having crossed the deserts of southern Arizona, saw the muddy stream and remarked in genuine surprise, "Why — it's wet!" Another popular description of the river is the derogatory "It's too thick to drink and not thick enough to plow." But the winner of them all came from Lieutenant Joseph Ives, who took a look at the country around the Grand Canyon and among other comments on the unique and stunning terrain said: "It is altogether valueless . . . it can be approached only from the south and after entering it there is nothing to do but leave. Ours has been the first and will doubtless be the last party of whites to visit this profitless locality." The lieutenant was wrong from start to finish. His party was not the first and not the last to look at the Grand Canyon, and as to its being valueless, the opinion has been pretty well upset by Indians, poets, painters, geologists, several million tourists, the Santa Fe railroad, the Fred Harvey System, and the United States government.

Padre Francisco Tomás Garcés, whose name is not without renown in the West, is supposed to have named the river in 1776 when he descended to its rushing waters where they are joined by Cataract Creek in the land of the Havasupai Indians. The padre's choice of a name was due to the reddish color at this point. He didn't call it the Red River, for that would have been Rio Rojo; it wasn't exactly red, but it was reddish (the padre was a stickler for exact details); and therefore he called it the Rio Colorado.

Later in the same year the two padres, Escalante and Dominguez, made the first recorded crossing of the river in its canyon regions in what is now southern Utah. This is the famous ford, now impassable, that was later used by Brigham Young's intrepid scout, Jacob Hamblin, and has been known for many years as the Crossing of the Fathers.

It is somewhat significant that on this powerful artery of life in the Southwest man has built two temples. They are seemingly worlds apart in geography, concept, and purpose; each is, however, an excellent representative of its age and



Mystic Falls in the Nankoweap Area. — GEORGE L. BECK

culture. The first, primarily religious, was also utilitarian. The second was primarily utilitarian, but not at all without some quintessential religion. The first was father Garcés' mission of the Purísima Concepción built in 1779 on the California side across from where Yuma, Arizona, stands today.

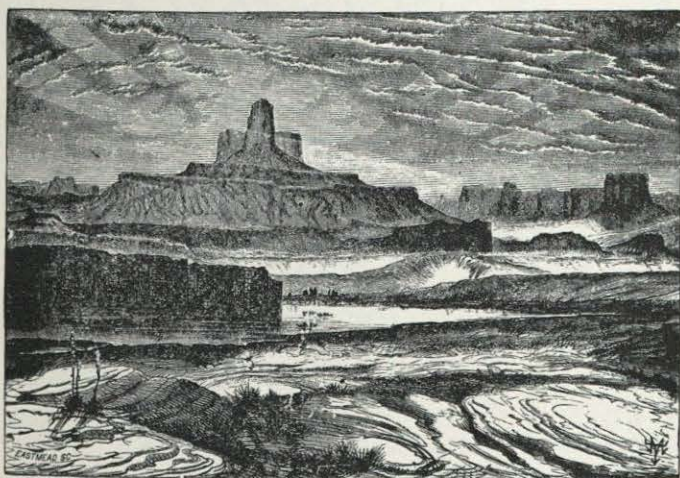
The second was Elwood Mead's Boulder Dam, completed in Black Canyon between Nevada and Arizona in 1936.

Here we have the old and the new. Here we have the vestiges of medieval culture contrasting with the twentieth century dynamo.

Father Garcés' project was the dream of his life; Elwood Mead's project was the dream of his life — and both men died just as the dream came to its complete fulfillment.

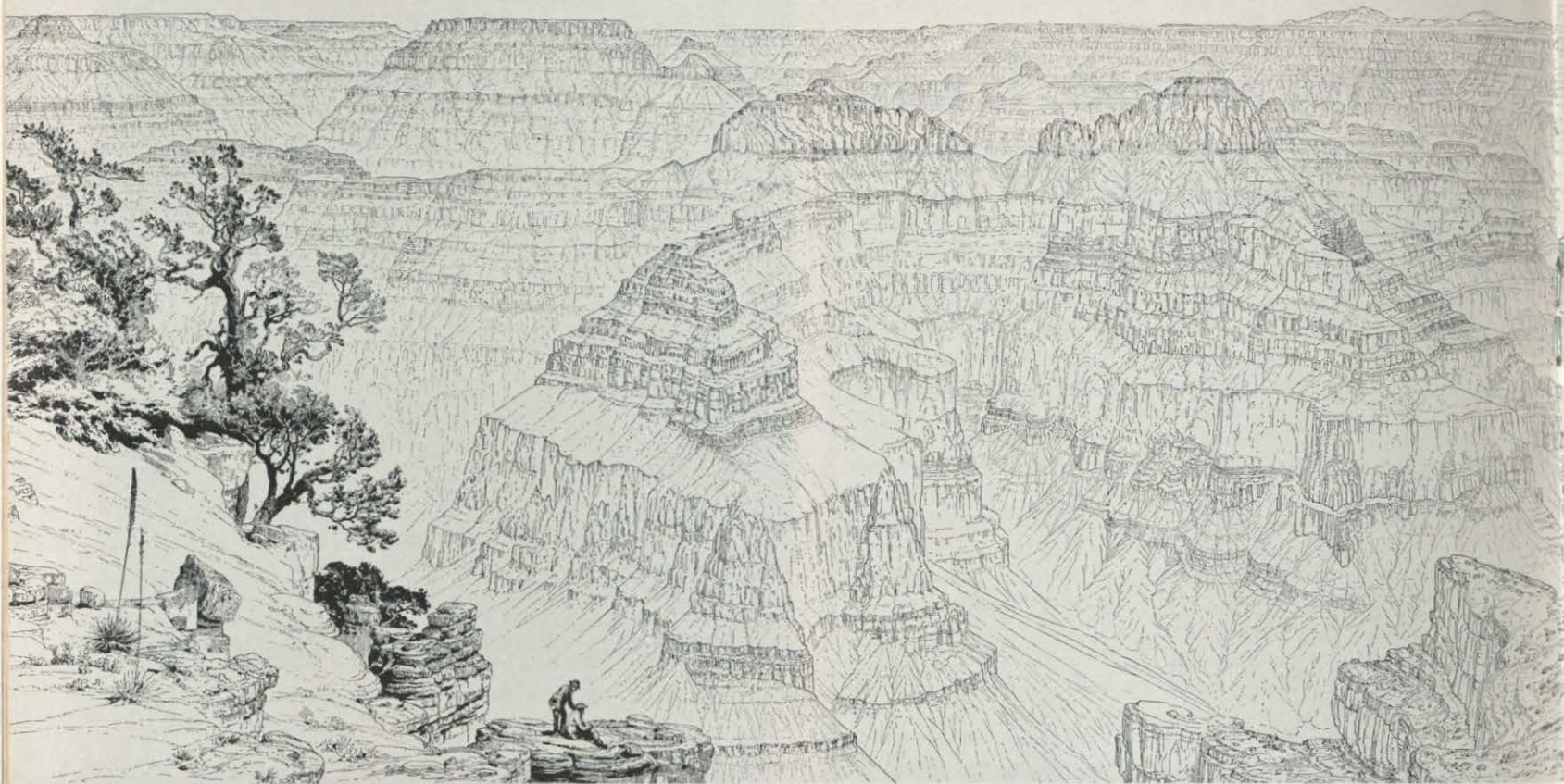
The mission of the Purísima Concepción was the spearhead of a new religion thrust into a land which knew it not. Boulder Dam was the powerhouse which brought 1,835,000 horsepower of cheap electric energy to a large portion of the American Southwest. Following closely on religious considerations in establishing the Purísima Concepción was the economic and utilitarian motive that has never been quite absent from the history of the church. Following closely the demand for power and conservation came a wide application to the problems entailed by a surrogate of the old religious principle, the field of modern analytical science. The contrasts between the two temples is not so great, but rather a matter of relative point of view. Even the name may indicate somewhat their kindred though differently conceived purposes: the mission of the purest conception; the dam — of the greatest conservation.

Father Garcés and his colleagues represent one kind of river in red, coursing through the minds of men in the Southwest — the river of religion; Elwood Mead and his scientists represent another kind of river in red, coursing through transmission lines and switchyards and the army of golemlike towers which march across the deserts with the power-carrying conductors — the river of electric energy. But it is the eternal Colorado itself which made both the church and the powerhouse possible, and as far as the river is concerned it can't tell one from the other. □ □ □



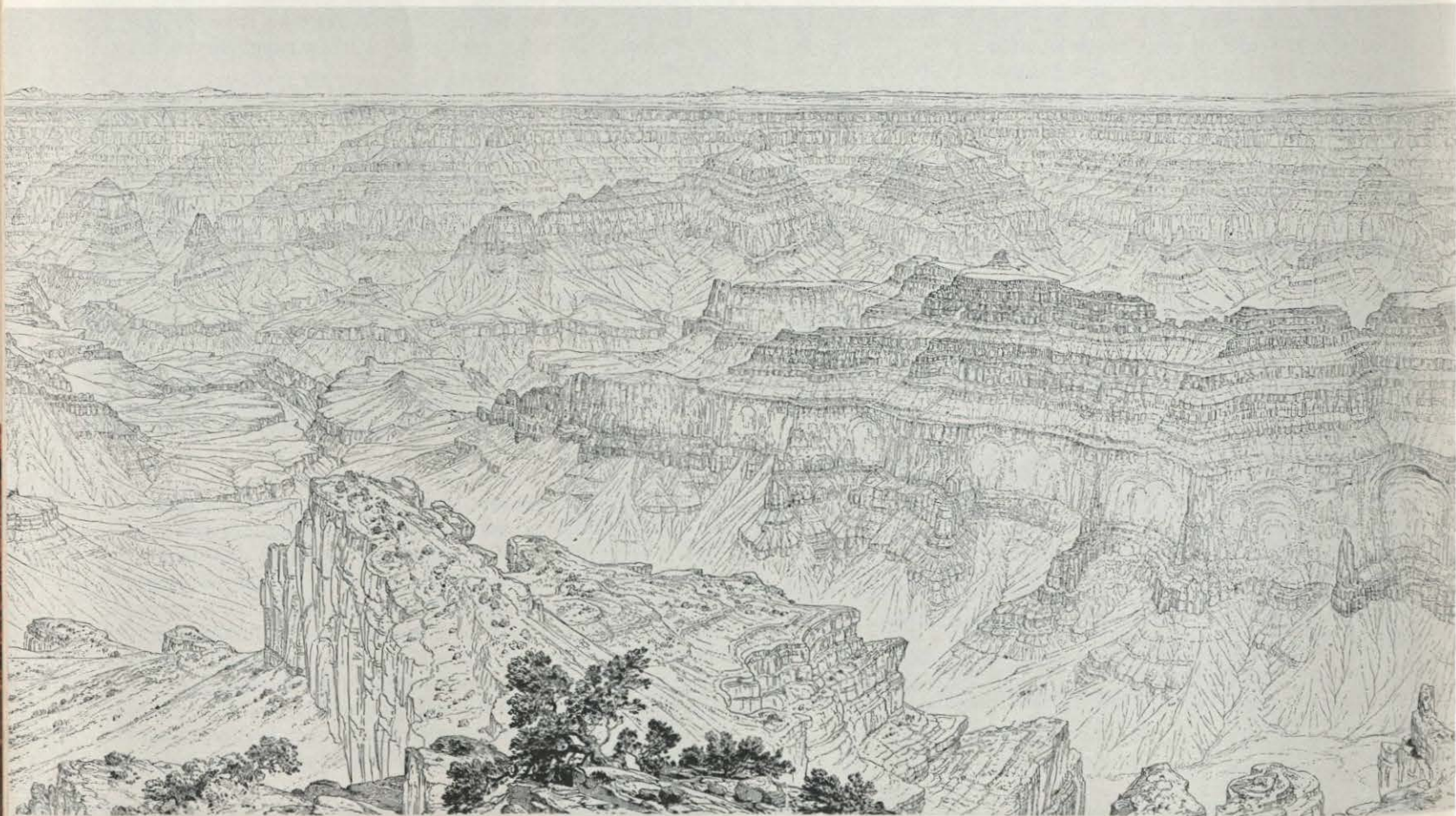
"Butte of the Cross"

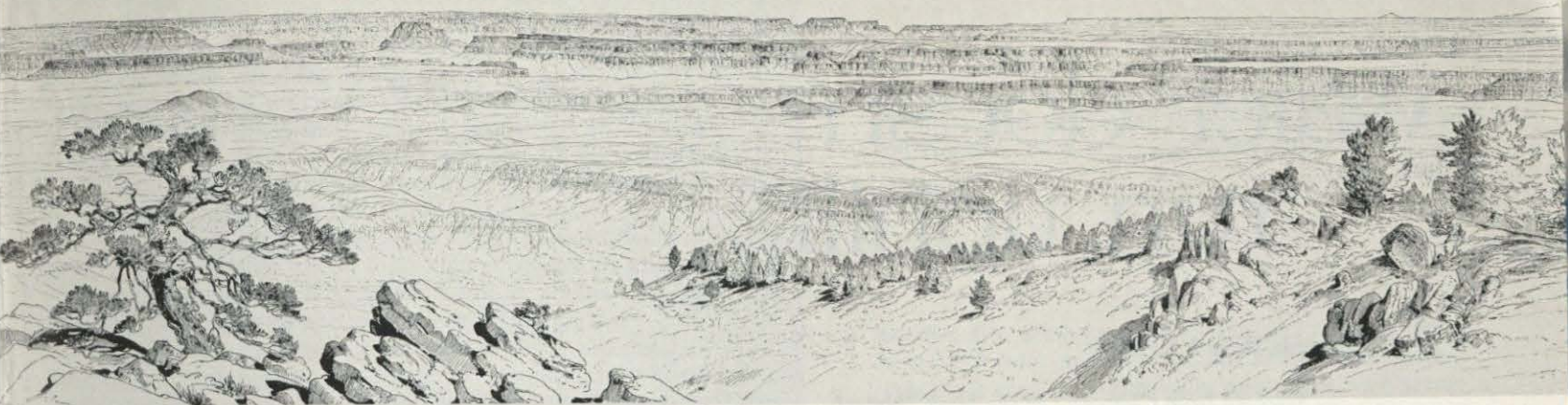
Drawing by THOMAS MORAN



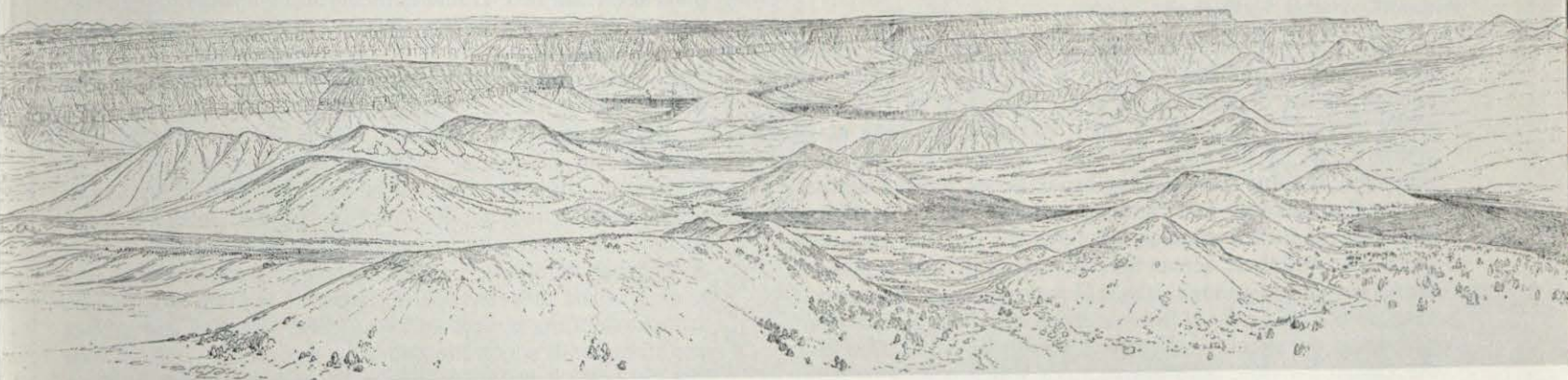
The panorama from Point Sublime — looking east. PL. XXXI

The panorama from Point Sublime — looking south. PL. XXXII



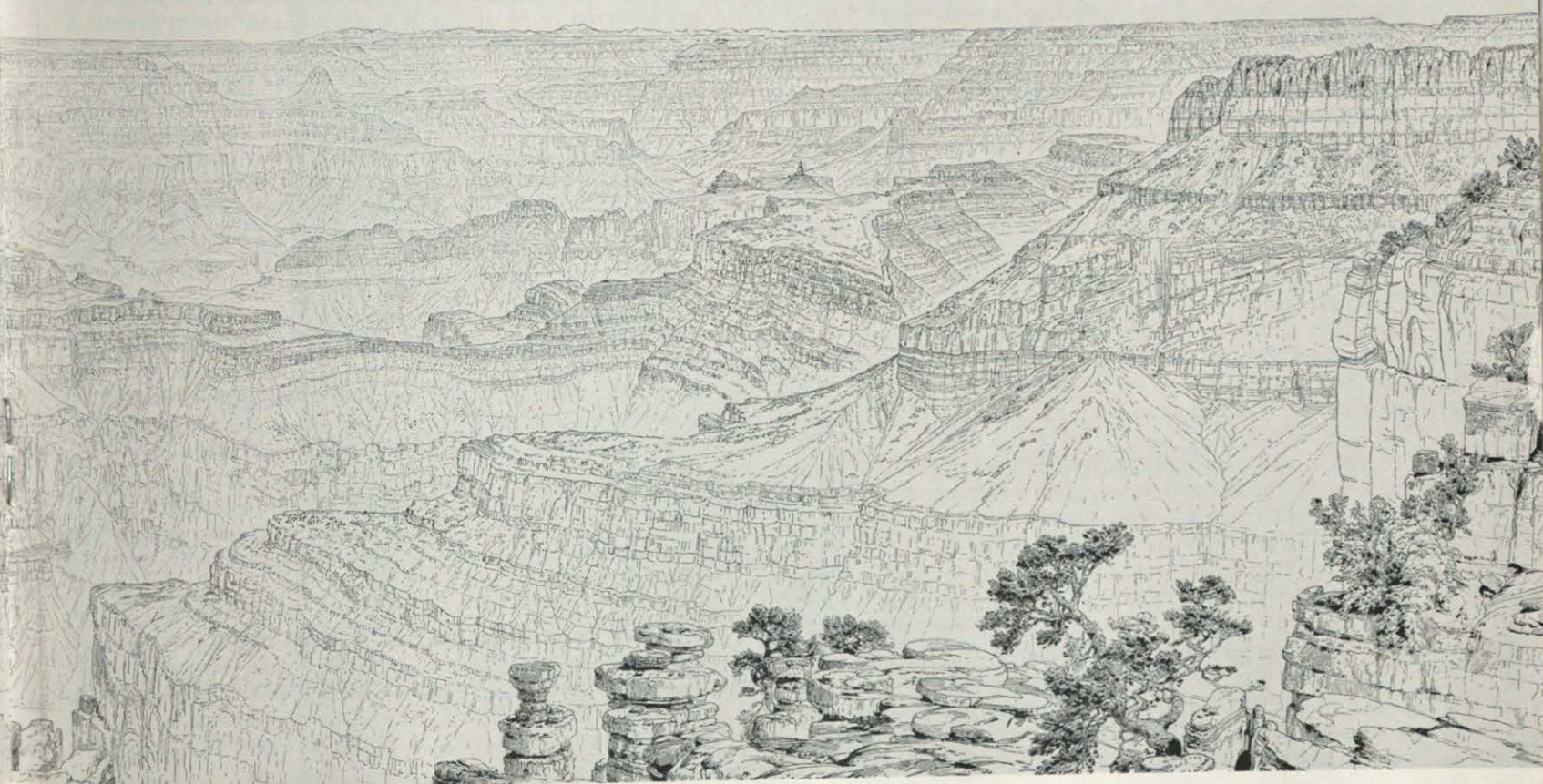


Panorama from Mount Trumbull, PL. XXXIII. Upper View looking east, with the Grand Canyon in the distance. Lower view looking down the Toroweap.



DRAWINGS BY WILLIAM HENRY HOLMES
THE PHYSICAL GEOLOGY OF THE GRAND CANYON DISTRICT
by
Capt. Clarence E. Dutton
From U.S. Geological Survey Annual Report 1881

The panorama from Point Sublime — looking west. PL. XXXIII



Water doesn't run uphill

By Joseph Wood Krutch

*Selected from Chapter 2 of the book "Grand Canyon Today and all its yesterdays"
— William Sloane Associates, New York, 1958.*

One does not need to be trained to ask geological questions to be struck by the fact that this is not the way rivers swift enough to cut deep channels are accustomed to run. Swift rivers run straight; sluggish ones meander. Looking at the course taken by the now swift San Juan, one is likely to be reminded of some slow-moving brook lazing its way across a nearly flat meadow and running so feebly that the slightest impediments turn it aside as it follows the path of least resistance here and there across the flat surface. If such a meadow brook cut deeply enough, it would make its own "gooseneck" canyon. But of course it doesn't and it couldn't. It is not swift enough to cut much, and if it were swift, it would flow over the almost invisible little obstructions which now turn it this way and that. In fact, it meanders so irresolutely that it may vary its channel from time to time, leveling the meadow still further. But it will never cut a deep channel.

Obviously the San Juan at the Goosenecks must have been sometime a meandering stream. As a matter of fact, the Goosenecks form what geologists call "an entrenched meander." But what, one wonders, can have happened to turn this feeble little current into a torrent large enough and swift enough to cut through hundreds of feet of solid rock and yet not make the straight channel to be expected of a swift river?

Probably, one will think first of the possibility that the earth, in one of her periodic convulsions, suddenly raised or tilted the flat surface across which the stream meandered, thus making it swifter and for some other reason more abundant. But that won't do. Tilt the meadow with its brook, and the stream will simply leap over the sinuosities of its low banks to take a shorter cut from high ground to low. Under those conditions it might cut a channel but it would not be the channel of its old meander.

There is, however, an obvious explanation of the anomaly. The land must have risen, but risen so slowly that the stream was never dumped out of its channel; so slowly, indeed, that it deepened this channel as fast or faster than the land rose and thus preserved the same course it had taken when it was too feeble to do more than obey the demands of every minor variation in level.

The explanation would never have been accepted by, and would probably never have occurred to anyone two centuries ago. Like all the explanations offered by geology today, it assumes vast stretches of time and assumes that the earth has existed for very much longer than anyone formerly dreamed that it had. The belief that its age was measured in a few thousands, not in many millions of years, was supported by the Biblical story. But even without that, the assumption was almost inevitable to a creature who instinctively measures things on a scale related to his own experience. It just didn't seem probable that anything had endured so much longer than man or the history he knew. Yet the existence of the Goose-

necks and the Canyon — for which no credible explanation not involving millions of years is discoverable — is just one of the many kinds of things which gradually forced upon the human mind the intellectual conviction that the mountains, plains, and rivers among which man passes his brief life are old beyond his power to grasp, and make demands on his imagination that it can hardly compass.

Was Grand Canyon formed in precisely the same way as its small brother, the Goosenecks? Though many nineteenth-century geologists thought so, it is now generally believed that the explanation is not quite so simple. The Colorado also winds back and forth, but its meanderings are probably, in part at least, the result of rock structures encountered during its downward progress. It is not, in other words, merely the entrenchment of early meanders. But the essential fact that remains is this: The Colorado, like the San Juan, once flowed across flat country which lay at approximately the level of the present stream bed. It had climbed no mountains to get there; resisted no impulse to run steeply the shortest way downhill; and its height above sea level was not greater than it is now. The river, though it cut through rock now forming the rim, was never "up there."

Slowly, however, the earth began to rise under the river — never fast enough to dump it out of its channel, never so fast that it could not cut downward more rapidly than the earth rose. At the same time, the Colorado was becoming a mightier river. When the Rocky Mountains first rose, they had brought down more water and made or increased western rivers. Later, as each of the successive ice ages ended, melting snow and ice brought flooding waters and with them the sand and pebbles and stones with which the river cuts downward — not so much like the knife with which it is commonly compared, as like a file or a cutting disk well supplied with abrasive. Moreover, as geologists are fond of pointing out, the process was not like pushing a knife into a cake, but like raising the cake slowly upward against an immobile knife.

No one knows why the earth rises, falls, and sometimes buckles or breaks in its alarming way. But it has done just that many times in the past and is doing it now. A year or two ago one of the Galápagos Islands rose with such unusual suddenness that what had been a bay became a shore. The Himalayas are believed to be still in the making, and Mount Everest is said to be rising. Parts of the California coast are also rising; other parts of the United States sinking. Whether or not the rocks of the Canyon walls and floor are still moving upward, no one knows, though earthquakes in the region suggest that they may be, and there is plenty of cutting power still left in the Colorado. In recent times it has carried as much as 27,000,000 tons of sand and silt past Bright Angel Point in one day and probably averages more than half a million — another reminder that "human aid" couldn't approximate its work.

Mountains are still a great deal more massive than skyscrapers. The most awesome force that man-induced atomic fission has ever released is puny by comparison with that unleashed in a hurricane, to say nothing of that which lifted the Rockies and the Alps. If, as park naturalists often point out, the Empire State Building had been built on the river, its summit would be just barely visible from the rim as it peeped above the inner gorge some four thousand feet below. That the Colorado dug out what our bulldozers could not is even more vividly suggested by a comparison with the work done on the Panama Canal.

That, I suppose, represents man's greatest attempt to rival nature as an earth mover. It involved the stupendous task of moving something like 450,000,000 cubic yards of dirt and stone. But the Colorado moves about 170,000,000 cubic yards *per year* — or more than a Panama Canal-full every three years. And it has been working — at various rates, of course — for several millions of years! □ □ □



LEFT: An aerial view of the downward cutting river and the upward rising Colorado Plateau north of Grand Canyon National Park at Navajo Bridge on U.S. Alt. 89.

— JOE MASKASKY

BELOW: This photograph from Skylab I, taken in early June 1973 from an orbital altitude of 270 statute miles, records an area 92 statute miles on a side (8450 square miles). The photo covers an area from the Grand Canyon National Park at the bottom edge up to the junction of the Colorado and San Juan Rivers at the top edge. On the right is a vast area of the Painted Desert. The dark feature in the upper right corner is Navajo Mountain (elevation 10,348 feet). The large dark wedge in the lower center (partially cloud covered) is the forested Kaibab Plateau and National Forest. About ¼ inch from the lower end of Lake Powell is the Glen Canyon Dam.

— PHOTO COURTESY OF ITEK CORP.



The Itek Aerial Camera used on Skylab was designed and produced by Itek Corporation Optical Systems Division, Lexington, Mass. Six lenses are used to photograph six channels of the color spectrum simultaneously. This photograph on Kodak film represents optimum color resolution. Film size 2¼ x 2¼. Focal length 6 inches.



Saga Of The

Grand Avenue, which bisects Sun City, generally follows the route taken by the eight-mule teams that hauled freight from Phoenix to Wickenburg in the 19th Century. This desert freighting trail was called the Vulture Road.

In 1863, the German minerologist, Henry Wickenburg was prospecting in the hills overlooking the Hassayampa River. He decided it was time to move on but his little "Arizona Nightingale" (burro) had other ideas. Wickenburg muttered into his grizzled beard, "Maybe a well placed rock will change your mind, or, at least attract your attention!" He let one fly, then another, but both fell short of their mark. He picked up another rock and noticed that it was unusually heavy for its size . . . heavy with gold! As he staked his claim, a lone vulture eyed him from a nearby perch. Thus, the greatest gold discovery in Arizona came to be called the Vulture Mine.

The first town in Maricopa County mushroomed on the west bank of the Hassayampa where arrastras were set up to crush the ore from the Vulture. In October, 1864, this settlement was officially named Wickenburg, Territory of Arizona and by 1866 it was one of the largest cities in Arizona and missed being chosen as the capital by only two votes.

In 1864, John Y. T. Smith set up a hay camp in the Salt River Valley to supply the Cavalry at Camp McDowell. Jack Swilling, a Confederate soldier turned prospector, visited the camp in 1867. The idea of using the prehistoric Hohokam Canal System to support agriculture in the Valley struck Swilling. He organized the Swilling Irrigation Canal Co. and convinced Wickenburg miners to invest in the project which would lower their food and forage prices. Henry Wickenburg "blazed" the 54-mile Vulture Road in 1867, hauling men and supplies to the canals. Within a year wagons laden with produce were rolling to Wickenburg.

Among the canal builders was the English scholar-adventurer, "Lord" Darrel Duppa. Commenting upon the ancient ruins and canals in the Salt River Valley, he said, "A city will rise phoenix-like, new and more beautiful from these ashes of the past." Thus, a gold mine named after a vulture led to the founding, in 1867, of Phoenix, named after the bird which symbolized resurrection in Egyptian mythology.

Other canal companies were established. By 1882, the Grand Canal was supporting a flourishing agricultural industry on the reclaimed desert east of Phoenix. Inspired by this success, the Arizona Canal Co. was formed to construct a waterway from Granite Reef, north of Mesa, to the arid plain west of Phoenix. William J. Murphy, who had just completed a stretch of the Atlantic and Pacific Railway (now the Santa Fe) in northern Arizona agreed to construct the Arizona Canal in exchange for proceeds from any water rights he could sell. He completed the 32-mile waterway and its 20 laterals in 1885 (the work took three years); then headed east to entice Illinois farmers to settle the new 38,000-acre irrigation district.

The Arizona climate started to attract winter vacationers from the east in 1896 when "snow birds" started the migration to Castle Hot Springs. There, centuries before, the Tonto Apaches had discovered hot "medicine waters" flowing from a mountainside. The venerable spa operates to this day on the site of the winter residence of the Territorial Governor, 24 miles east of Morristown.

By 1909, the Vulture Road had become a "grand avenue." The Santa Fe now carried freight to Wickenburg, Flagstaff and points east. The Greenhut-Clarke-Wagoner Ranch was one of the largest shippers of cattle in the Valley. Peoria farmers were prospering. A few of them were beginning to experiment with cotton, a crop the Indians had cultivated by primitive means. The Agua Fria Water and Land Co. was developing 40,000 acres on the west bank of the Agua Fria River. This project was to bring about the construction of Carl Pleasant Dam 18 years later.

Vulture Road

It was incredible to think that in 1858, the Congress of the United States had accepted a report about the Arizona desert which said, "The region is altogether valueless. After entering it, there is nothing to do but leave."

R. P. Davie, a business adventurer from Marinette, Wisconsin was impressed by the growth and the potential of the area. He bought and leased thousands of acres between the New River and the Agua Fria and developed a deep well pumping system to irrigate his acreage which lay just beyond the end of the Arizona Canal. Following the example of the founders of Peoria, he platted a townsite named after his home town. Davie envisioned a city of industrious farmers and tradesmen when he wrote, "The men in charge of the destinies of Marinette are master craftsmen when it comes to the making of prosperous communities. We know how to take good soil, good water rights and good climate; get good people there; get the people united and busy. We are doing this at Marinette." Soon Marinette could boast a store, a boarding house and a few homes. The United States Post Office, Marinette, Arizona opened the year that the Territory achieved statehood, 1912.

Davie made his only mistake in 1918 when he gambled the future of Marinette on the sugar beet. By 1920 it was decided that the soil could not produce a sweet enough beet and Davie lost heavily. He sold his holdings May 14, 1920 to the Southwest Cotton Co. (a subsidiary of Goodyear Tire and Rubber Co.) for one million dollars, and the town of Marinette became a company compound. The affairs of Marinette were administered from Litchfield Park, seat of the Goodyear Cotton empire which had been established in 1916 when submarine warfare cut off the supply of long staple cotton from Egypt.

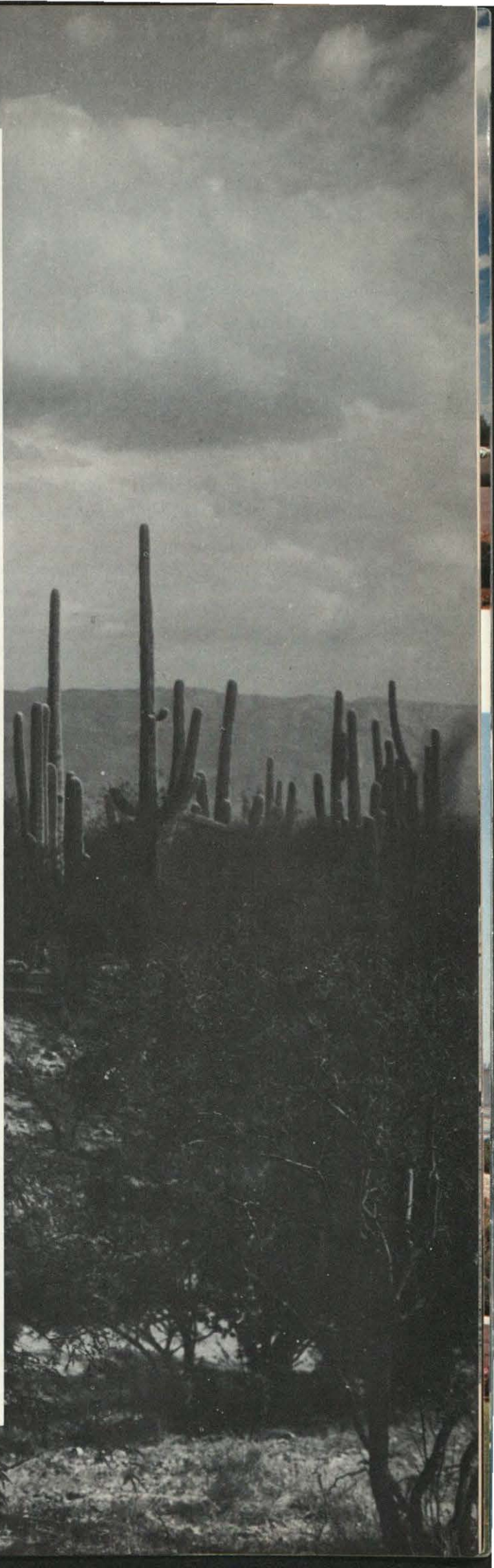
In 1936 the Marinette Ranch was sold to the J. G. Boswell Co., also of Litchfield Park. Under this banner Marinette produced as never before, but it produced crops, not people. As machines replaced men in the fields the population of the town dwindled. Finally much of the townsite was planted in cotton and lettuce. Progress had turned Marinette into one of the nation's most prosperous plantations rather than into the city envisioned by its founder.

A newspaper article comparing the Arizona town to Marinette, Wisconsin in the early 1950's said, "Marinette (Arizona) is all but gone now. Progress which built one town from a trading post to a population of 15,000 all but obliterated the other." By 1960, little more remained of the town than the sign on the Santa Fe right-of-way bearing the name, Marinette.

About five miles southwest of Marinette there is a sign on the Luke Air Force Base railroad spur bearing the name "Webb." Webb, Arizona was a construction camp established in 1941 by a young builder from Phoenix when he was awarded the contract to construct Luke Air Field for the U.S. Army Air Force. Today Luke Air Force Base is the largest facility of its type in the world.

While Del E. Webb was constructing a new community at Luke, he was building an organization that would master the art of community development. This was to have a profound influence upon the history of Marinette where, in 1959, the Boswells released cotton acreage to Webb to build a motel, shopping center, medical clinic, recreational complex with craft shops and art studios and a model home show. Orders were taken for four hundred homes and apartments during the opening month, January, 1960.

Whatever became of Marinette, Arizona? It became Sun City, Arizona — America's Most Famous Resort-Retirement Community. ☐ ☐ ☐





Sun City, Arizona, U.S.A.

BY PATRICIA BARNES

Sun City spreads like a vast mosaic across former cotton fields.

Between, through and among 17,000 homes wind nine golf courses, wide streets in varied patterns, and the irregular shorelines of two large man-made, fish-stocked lakes. Five recreation centers, successively more sumptuous and imaginative, offer a wide variety of activities—swimming, shuffleboard, lawn bowling, arts and crafts, tennis, miniature golf, lectures, meetings of all kinds — for which residents pay an annual fee of \$24 per person.

Sun City Stadium is the spring training home of the American League's Milwaukee Brewers. Through the summer it hosts some of the nation's finest men's and women's softball activities.

The Sun Bowl, an outdoor amphitheater, just this year featured such artists as Lawrence Welk, Freddy Martin, Roberta Peters and the King Family. The auditorium at Sundial Recreation Center overflowed this season for such lecturers as Neil Armstrong and Sam Levenson.

Sun Citians are served by six major shopping centers, 14 bank branches, ten savings and loan association offices, two stock brokerage offices, 17 churches, a movie theater, a 16-lane bowling alley, two private country clubs, the 200-bed Walter O. Boswell Memorial Hospital, a 60,000 square foot medical arts complex and a variety of modern motels and restaurants.

This enumeration is already obsolete, for Sun City is constantly building. But to see Sun City only as an inspiring display of buildings is to contemplate an empty glass. The glass is filled by the people occupying and using these buildings.

Sun City is people.

Its more than 30,000 residents came from almost everywhere, have done almost everything, and represent wide ranges of economic, social, political, religious and ethnic backgrounds. Doctors, electricians, professors, farmers, lawyers, ministers, foremen, postal workers, company presidents, civil servants, merchants, insurance salesmen, diplomats, motion picture veterans, utility company employees, artists, stockbrokers, writers, teachers all live and mingle with people from dozens of other professions and occupations.

Sun Citians generally have at least three common denominators. They are not poor. They are not young in years. They are youthful in spirit.

Residents are drawn from middle income, upper middle and even upper income ranks. Their financial means have helped stimulate and make possible the mobility that brought them there. They are more curious, more active, more positive than many of the fellow retirees they left behind in their hometowns. They are in Sun City by choice, after a cautious selection process, drawn by its challenges as well as by its attractions.

At least one member of each household is over 50, and at the time of the initial sale of each house no prospective resident is under 18.

The youthful spirit of Sun Citians runs far deeper than the "Rah! Rah!" type. Age is a unifying, not a competitive factor, and each person is judged for himself rather than by the number of winters he has seen. Sun City represents a new start, and in this mutual undertaking each newcomer is figuratively a "young upstart." To really partake of Sun City, a resident will try new things, make new friends, think new thoughts, discover new interests and talents.

The quiet follower, freed of frustrations and insecurities that have long bound him, may speak out assertively, even assume leadership. The domineering ex-boss may be compelled by his new peers to listen and learn. The lapidaries, silvercraft shops and ceramics studios breed not just dabblers but skilled craftsmen, many of them veterans of 40 years behind a desk. The introvert is invited to the world of the extroverts, or permitted an understood privacy he could find few other places. All of this occurs within an environment that gears its pace, services and conveniences to the needs of the retired.

Most Sun City residents have responded well to its opportunities. Golf courses, pools, craft facilities, recreation centers, and entertainment and cultural activities are used constantly and appreciated. Residents have organized more than 150 clubs and organizations spanning hobby, service, civic, charitable and recreation groups all the way to a 65-member symphony orchestra.

Sun City is a unique real estate development.

The Del E. Webb Development Company, a subsidiary of Del E. Webb Corporation, set out to fuse the proper elements into a living, self-animating community. Sun City is a product of private enterprise, developed almost totally without Federal or other public involvement. It may well be the most commercially successful community development project ever built.

The development company did create the idea of Sun City, plan it, build it, promote it, sell it, direct it, stimulate it and — perhaps most important — did not forget it. Unlike so many real estate developments, Sun City opened in 1960 with a golf course, recreation center, shopping center and motel, a two million dollar investment to serve non-existent residents. The community grew to 15,000 residents in its first ten years and has doubled its population in the past four.

Sun City has a multitude of salesmen, most of them unofficial and unpaid, for almost half of all new home buyers report they were first attracted to the community through the recommendation of a Sun Citian. They do just as effective a job selling themselves. The turnover rate on Sun City homes in 1973 was a low 7.7 percent, about half the national rate for FHA housing. Of those residents selling their Sun City homes last year, more than 40 percent bought new homes in Sun City. More than half of Sun City's homebuyers pay in full with cash.

Sun City is a planned community.

This may be an important point in these times when public officials, ecologists, academicians, real estate promoters and reformers-at-large attribute Merlin-like qualities to city, land and social planners. True enough, Sun City also has had all of the usual brightly-colored land use maps, feasibility studies and planning trade gobbledygook. But, to say that today's Sun City was master-planned at its beginning in 1959 is about as accurate as saying Columbus had a tight, pre-planned itinerary on his first voyage to the New World. The developer's initial planning effort apparently was sound, for Sun City almost instantly sparked to life and has evolved into a commercial, aesthetic and sociological success. However, the real planning job has been the dynamic role of monitoring Sun City's growth, continually assessing its changing needs, and responding creatively.

Sun City is a sociological phenomenon.

It is innovative and significant in a variety of ways. It is one of the largest and most successful of new communities. It is also perhaps the most nearly self-contained. It is evidence that retirees can form successfully an urbanized society of their own — tailored to their needs, serving their interests, providing

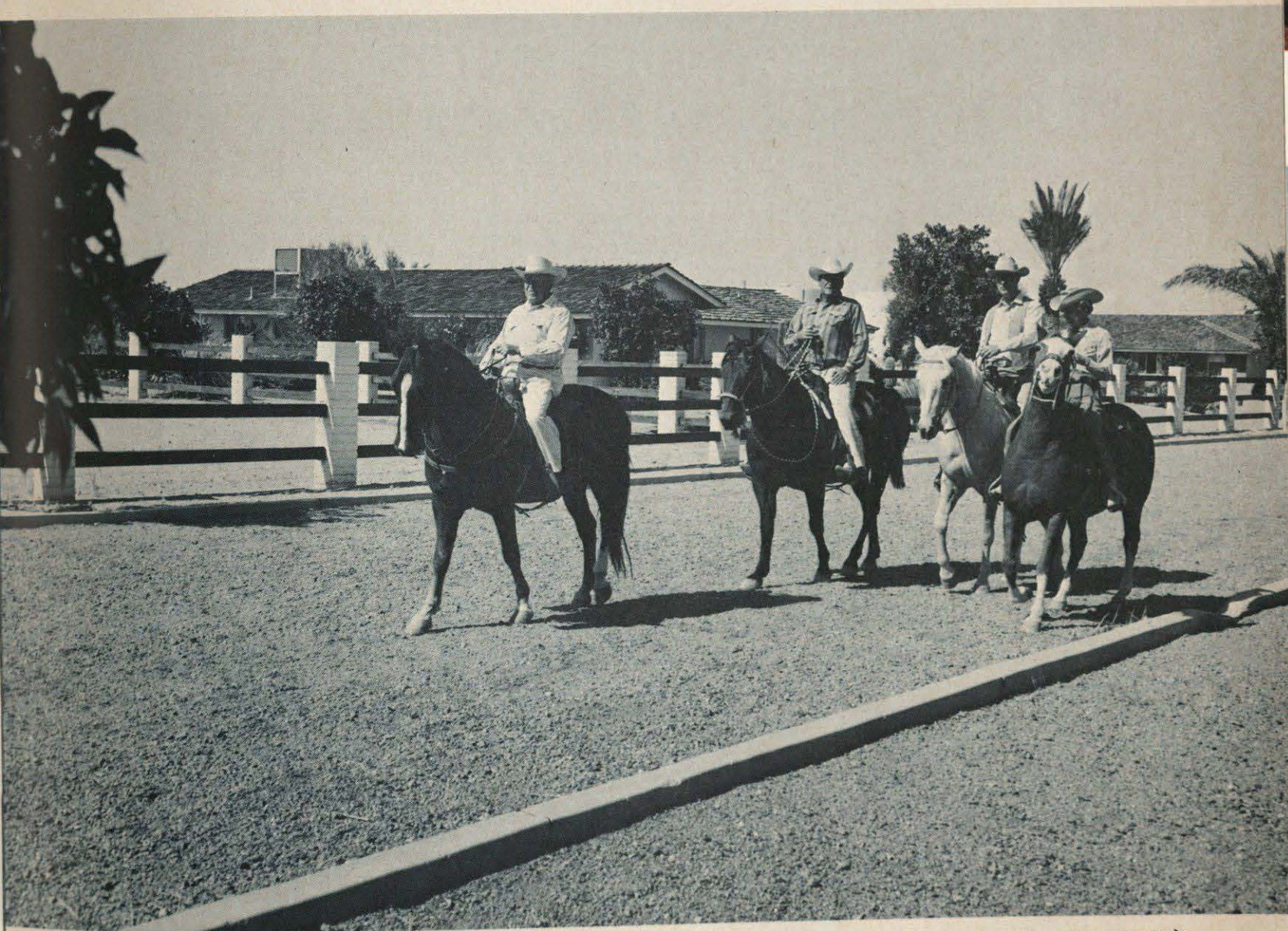
activities and challenges within a pleasant environment. It is the most politically potent city of 30,000 population anywhere. It is also one of the country's largest and most complex unincorporated communities.

As a retirement community it sidesteps some of the worst pitfalls that stymied other new communities: 1. the need for job opportunities, 2. adequate transportation facilities for commuting to jobs, and 3. educational facilities equivalent to those available in longer-developed areas.

Lest anyone be deluded into thinking Sun City is Shangri-La, it is not. It is the home of 30,000 keen, active minds with time and motivation to question, analyze, criticize. Few issues in the community are settled before they are exhausted.

The issue of incorporation as a city is always being debated. In the absence of municipal government, Sun City has developed a fascinating complex of quasi-governmental and pressure groups that have collectively given the community much of the effect of local government without the citizens' ceding any real authority. Recreation Centers of Sun City, Inc., owns and operates (through a popularly elected, nine-member board that serves without compensation and a salaried direc-

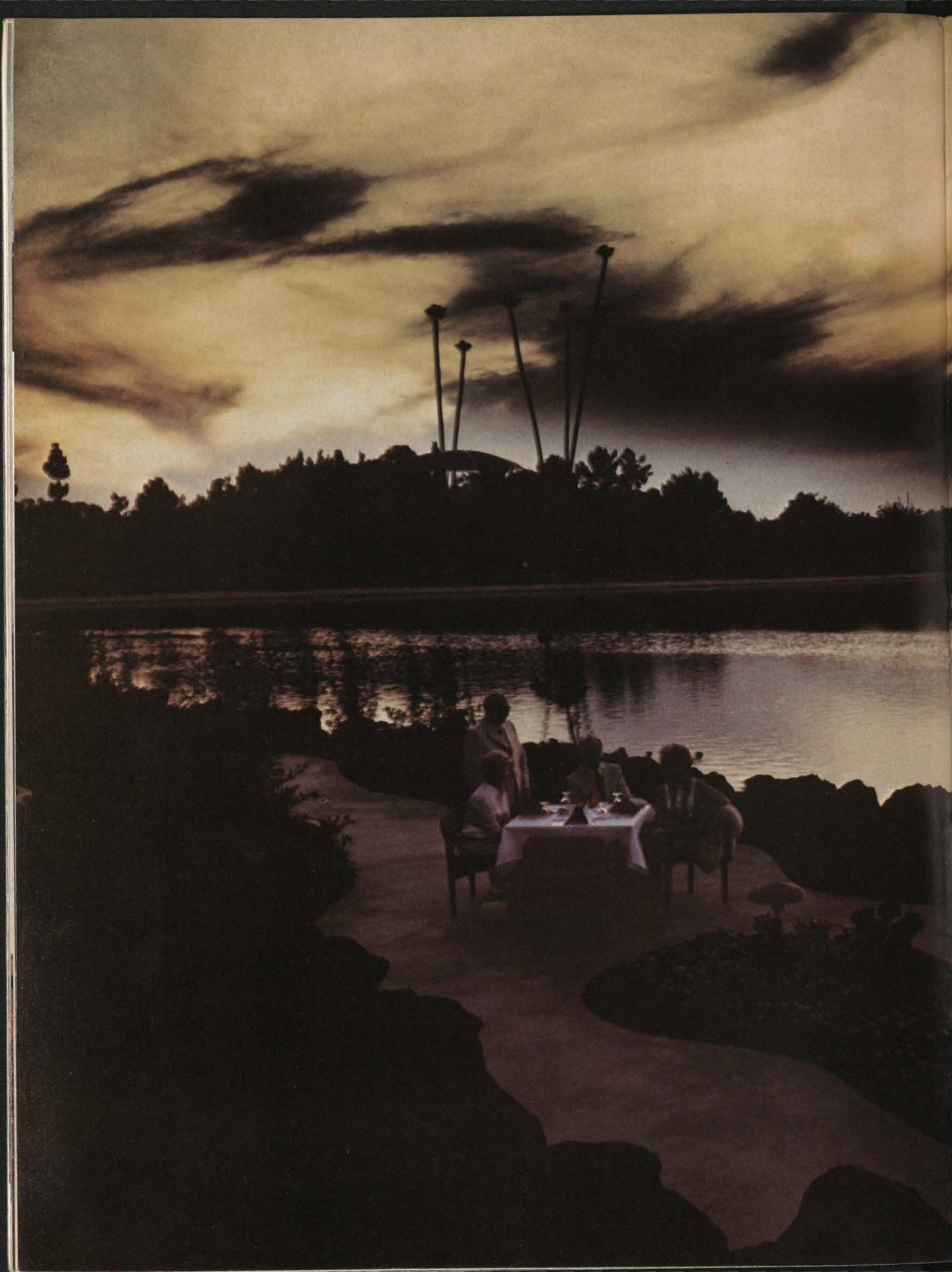
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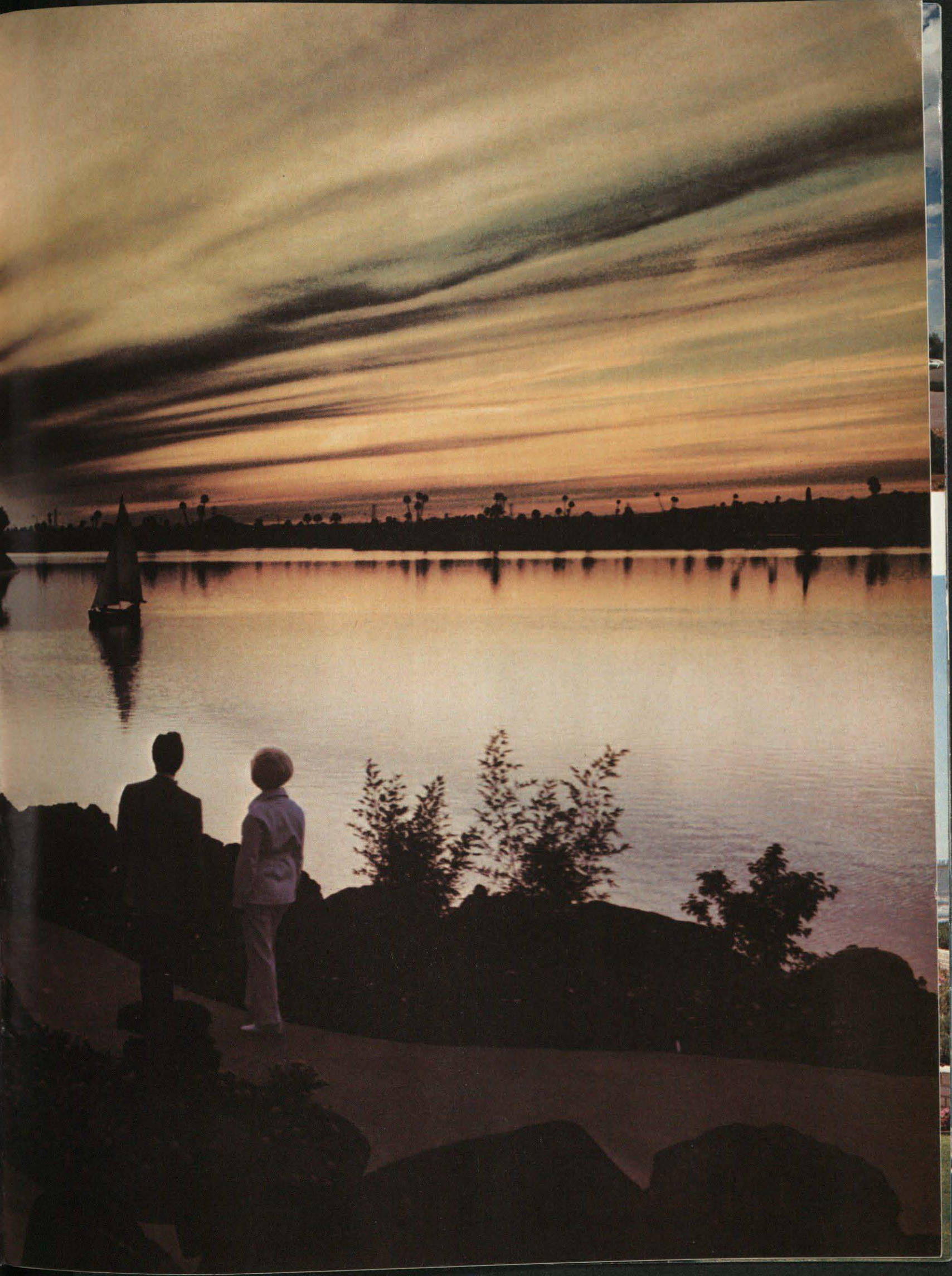


Rancho Estates — acre lots with horse privileges, is located on Sun City's "western-most frontier" and represent the developments most western life style. — WES GRANT

FOLLOWING PANEL *Pages 32-33* ▶

One does not have to cruise to exotic lands to be part of unforgettable sunsets — Sun City at Dusk. — WES GRANT





tor) the recreation centers, ownership of which is transferred to homeowners collectively. The Home Owners Association, a massive voluntary organization claiming some 19,000 members, serves as a forceful voice for the common interests of its members and Sun City generally. The Sun City Taxpayers Association, with 4,000 members is more aggressively oriented toward incorporation, and takes a special interest in property tax matters. The Fire District Board, also elected, supervises the business of the fire protection district.

Sun City is a contributor.

A study of the economic impact of Sun City shows that as of December, 1973, Sun City was directly responsible for providing jobs for 4,700 persons. This employment covers a wide range of occupations, from the developer's employees, construction workers, laborers and recreational employees to financial, health, hotel, restaurant, retail, service station and other service employment, drawn for the most part from outside Sun City. It is estimated that Sun City was responsible, directly and indirectly at the end of 1973, for 8,000 jobs throughout Arizona.

Sun Citians bring substantial capital into Arizona with them and many continue to receive income from out-of-state sources (about 77 percent of all Sun City home buyers are from outside Arizona). This helps account for the presence of 14 bank branches and ten savings and loan offices in a community with a population of 30,000. Sun City has generated

substantially greater tax revenues for the state, county and school district than the costs of the services it receives from them. Sun Citians in 1973 paid approximately \$9.6 million in state and local taxes, with property taxes constituting \$4.25 million of this total. Despite the minute demand of a retirement community for elementary and high school facilities, Sun City provided about 80 percent of its school district's property tax revenues, thereby providing some 41 percent of the district's budget. Sun City, an unincorporated community, even contributed \$594,000 to tax revenues for Arizona's incorporated cities.

The celebrated beauty, the stimulating vitality, the amazing panorama of Sun City have made it a genuine tourist attraction. More than 250,000 visitors annually give it a major status in Arizona's important tourist industry, with attendant economic and social benefits for the state.

The most important ingredient in the success of Sun City is its own success. That success, at the start, was essential because it gave the developer the confidence to take the gambles that perpetuated that success. Performances measured up to and exceeded promises, assuring thousands of buyers that the risk they seemed to be taking wasn't a risk after all. Gertrude Stein might have said success has bred success that has bred success.

Buildings, people, development, planning, sociological phenomenon, controversy, contribution, success — these make up the Sun City way of life. And the Sun City way of life is what has made Sun City. □ □ □



Arizona's largest indoor swimming pool, Sun Dial Center. — WES GRANT



DEL E. WEBB

The All American Arizona Legend

The press in covering the phenomenal accomplishments of Del E. Webb as he rose from teen-age carpenter to Chairman of the Board of a multi-faceted corporation with over 8,000 employees has hailed him as "An Amazing Arizona Legend" . . . "That master planner and builder" . . . "An institution — the best known of the big time developers" . . . "The nation's chief developer of retirement towns." He has been co-owner of the New York Yankees, a TIME magazine cover subject, the recipient of honors from universities he could not have afforded to attend in his youth.

Del Webb was born in Fresno, California in 1899. When his father's business suffered reversals he dropped out of school at the age of 13 and began working as a carpenter. In 1927, after several lean years, he loaded his old Nash car with his carpenter tools, his pitcher's glove, a few possessions and set out for Phoenix, Arizona.

His subsequent professional baseball career was cut short after a collision at home plate and a long bout with typhoid. After he recovered he again turned to carpentry and worked hard perfecting the skills of his trade. Del Webb was not only a good carpenter but he had a talent for figuring costs and time and a knack for gathering the best craftsmen around him. Thus a construction company was born.

In those early days the jobs came small, but he tackled them with enthusiasm and determination. First came grocery stores, filling stations and drug stores. Next came department stores, state

buildings, high school and college buildings. Eventually he was building military bases, hospitals, shopping centers and office buildings.

During these years Webb began dreaming about a new city, a town for people who were past 50, a complete city planned with their particular needs and desires in mind. In 1960 his planned city became a reality — Sun City opened to a responsive public.

The Del E. Webb Corporation, through the years, has gained national prominence, constructing major projects such as the New York Madison Square Garden, Los Angeles County Art Museum, Anaheim Stadium, the International Airport at Kansas City and the U.S. Pavilion at the New York World's Fair. In Phoenix, Webb's building team constructed the impressive Civic Plaza and the trio of skyscrapers comprising the Rosenzweig Center, which Webb co-owns and operates.

In recent years Arizona businesses, institutions and community service organizations have extended recognition to Del Webb for his many contributions to the state.

Of all his achievements and successes, the one which gives him the most satisfaction, the one he takes greatest pride in is Sun City. It's evident in the comradeship between Sun Citians and Webb during his frequent visits.

In his words, "When some Sun City resident, perhaps a total stranger, buttonholes me on a visit to say that life in Sun City has made his or her retirement years well worth living . . . well, to me, that says it all." □ □ □



The No Bad-Hop Baseball Stadium

By Ernie Mehl

In a number of ways, this is a unique stadium which is host to major league baseball in the Spring, softball during the Summer, Fourth of July fireworks displays and, on at least one occasion, to the close harmony of Barbershoppers.

Opened July 10 in 1971, the stadium can accommodate 4,000. It was built on a wash near the Agua Fria river, which suggested an ideal condition for a bowl. As a result, the playing field is 23 feet below the 500-car parking lot. It boasts an excellent lighting system for night games.

The contoured aluminum seats provide enough leg room so that a famished fan can return to his seat carrying ten hot dogs, an equivalent supply of liquids, a few sacks of peanuts, and plenty of buttered popcorn, without stumbling and spilling the lot. A 30-foot screen extends in front of the stands from home plate to first and third bases, supplying ample protection from errant foul balls. Thus one can turn to his seatmate and discuss the aunt who lives in Dubuque in perfect safety.

The San Francisco Giants used Sun City Stadium in 1972 and the following year the Brewers came on the scene. Their trial season convinced the owners, and they signed a 10-year contract.

This Spring's schedule brought the world's champion Oakland Athletics, the Chicago Cubs, Cleveland Indians and San Diego Padres to Sun City. Programs and concessions were handled by local Lions Clubs, with profits going for charitable projects.

During the Summer the great affection of Sun Citians is lavished on the Sun City Saints, members of the Pacific Coast League of women's softball. They have placed as high as third in the National Softball Championships. This year the regional titular games will be played in the Sun City Stadium.

There is also a new addition to the stadium agenda. Page's Raiders, Arizona State fast pitch softball champions for three consecutive years, will play their "home" games at Sun City Stadium, and are certain to win many local fans. As Page's Sun City Raiders they will be host team in the International Softball Congress World Tournament which will bring teams from throughout the nation to play at Sun City.

The crack of the bat, an umpire's called strike, the crowd's roar of "kill the ump," and the concessionaire's "call" are familiar sounds at Sun City Stadium from early Spring through Autumn. Sun City's no-bad-hop stadium has scored a real "hit" with players and fans alike. □ □ □

Walter O. Boswell Memorial Hospital

The five-story white twin towers of the Boswell Memorial Hospital stand in stark contrast to the White Tank, Estrella, and Phoenix mountains they share in the Valley skyline, dominating the view from Wickenburg to Peoria, Lake Pleasant to Litchfield Park.

The hospital has become the visual and medical focal point for 100,000 persons living in the western Valley of the Sun region.

Although Boswell Hospital offers a complete range of medical specialties to serve its diverse population its emphasis is on acute geriatric care.

Its progressive administration, sophisticated equipment, and ideal location have attracted a distinguished medical staff of more than 170 physicians. Among them are several specialists internationally recognized as authorities in their field.

Various programs for heart attack, stroke, emphysema, and asthma patients have been developed with emphasis on outpatient and home care treatments.

Matching its modern treatment philosophy is Boswell's innovative design. It is the first hospital in Arizona to have all of its nursing units built in-the-round.

Each tower contains four nursing units. Like spokes on a wheel, the patient rooms surround the nursing stations on each floor so that every patient is within a few feet of the nurses who care for him. A survey showed this floor plan is both time saving and more efficient. It facilitates the hospital's nursing philosophy of individual patient care.

The revolutionary design of Boswell Memorial Hospital was conceived by Ellerbe and Associates, Architects of St. Paul, Minnesota, nationally known for their inventive approach to the planning of medical facilities. It was executed by the Del E. Webb Corporation with Bricker and Hoyt, A.I.A., of Phoenix, serving as associate architects. It was named to honor Walter O. Boswell (one of the three Boswell brothers who farmed the area before it became Sun City) in recognition of the generous response of the Boswell family to community hospital fund raising efforts.

Community support for the hospital has come in many ways other than just volunteer man-hours. The auxiliary, local civic clubs, charitable foundations, corporations, and individuals have all made substantial contributions of money and equipment.

As a result, Boswell Hospital is one of Arizona's most outstanding, best equipped hospitals for general acute care. All hospital departments such as radiology, intensive care, cardiac care, and others have developed treatment programs and equipment specifically for their older patients.

The hospital's first patients were admitted in November, 1970. Since then, two more floors for patient care were added and plans are underway to double its 200-bed capacity. The hospital is part of a medical care complex that includes an existing medical office center and a planned nursing home.

While recognizing the financial aid it has received as being important, Boswell Hospital's "Dedicated to Excellence" motto would not be achievable were it not for the support it receives from the community for which it cares. □ □ □



In the Valley of the Sun, outdoor living is emphasized.

SUN CITY SUN BOWL . . .

They've danced to Guy Lombardo's music there, listened to soprano Roberta Peters, watched performances by Arizona Indians and Island Tahitians, and have thrilled to Lawrence Welk and his Champagne Music Makers.

It's the solemn site of patriotic ceremonies and religious services, the location of the Sun City pioneers annual gathering, and the Wisconsin Club spring picnic.

The Sun City Sun Bowl, a 7,500 capacity outdoor amphitheater serves its community in many ways.

The Sun Bowl resembles a park that blends into Sun City's abundant landscape beauty. It is surrounded by stately palms, well-trimmed shrubs, and grass carpeted terraces.

Following the New Year and for several weeks thereafter, the Sun Bowl presents its annual Celebrities Series on Sunday afternoons.

Last season, musical programs by Lawrence Welk, Roberta Peters, Roger Williams, the Big Band Cavalcade and the King Family brought an average of 7,000 viewers to the sun-splashed amphitheater.

Entertainment is year 'round at the Sun Bowl, and with the exception of the Celebrities Series admission events, programs are free. Interspersed between the Series events are Sun City's Birthday Party, a Western Show, Luke Air Force Band and the Shrine Band concerts. Residents are treated to a Mother's Day Strawberry Festival, Father's Day Rootbeer Bust and summer and fall Sun Bowl Orchestra concerts under the stars.

The Bowl is a platform for the talents of young people and fine amateur groups. Yearly the Northern Arizona University Concert Band, Duquesne University Tamburitians, barbershoppers, choruses and other local bands and choirs present commendable programs. They delight in performing for consistently large and enthusiastic Sun Bowl audiences. □



The Town Too Busy To Retire

by **Thelma Heatwole**

"No person can say what happiness is for another," says Mrs. Ray Nygren. "But no one, I'm convinced, can be happy who lives only for himself.

"The joy of living comes only from immersion in something that we know to be bigger, better, more enduring and worthier than we are," she adds.

Mrs. Nygren is founder and president of the Sun City Puppet Club whose members sew and sell items with proceeds earmarked for welfare and needy children.

The Puppet Club will be twelve years old in October. Already they have taken in \$90,000, all going to such projects as day care centers, schools, cancer research and for blind children, with the exception of cost of material and equipment.

Each month they choose a different recipient for their funds.

In another avenue, there is the Sunshine Service, Inc., probably the only organization of such magnitude and purpose in the world. It brings "sunshine" into the lives of the ill and bereaved.

Sunshine Service loans from a stockpile of sickroom equipment valued near \$100,000 and saves residents thousands of dollars each year in rental fees.

This unique service is financed solely by contributions and memorial gifts. It is beamed from a building worth \$100,000, also acquired through contributions.

Chief dispenser of Sunshine is the Rev. Duane Thistlethwaite, 81, who makes more than 100 calls a week to homes and hospitals.

An army of 400 volunteers helps with the Sunshine work.

There are those who went to Sun City to enjoy hobbies, golfing, bowling, cycling, arts and crafts and a homebase for travel. But legions also relish helping others — donating time and talents to service projects.

Some find civic roles their dish. And with the expertise drawn from a lifetime of career work, they have much to offer.

Sun Citians manage their own community affairs. An unincorporated town, residents organized the Sun City Home Owners Association, the Taxpayers Association and Recreation Centers of Sun City, Inc. And when the day comes for home rule, there will be qualified men and women to take over the municipal helm.

Sun City has great human quality. That humanness is evidenced by the friendliness of the great majority who hail from every state in the United States and several foreign countries.

Both men and women donate to Dysart Center, a haven of help for the poor and one of Sun City's greatest outreaches.

Willing hands sew for the center's needy or teach sewing and cooking classes. Many women, trained in the Laubach Literacy program, teach adult basic education in reading, writing and English to Mexican-Americans and other nationalities at the center. Others, in a needed service, teach citizenship classes.

Gertrude Flyte, who launched the evening instruction program at Dysart, said that Dysart Center is what today's young people would call a "Love Project." It is supported entirely by

the goodwill and generosity of Sun City and the surrounding area.

The Sun City Players is a "little theater group" with the triple-header purpose — entertaining Sun Citians, donating to charities and improving themselves professionally.

"Meals on Wheels" is a valuable program put in action by warm-hearted Sun Citians. For a fee slightly below cost, meals are delivered to those unable to cook for themselves, either permanently or temporarily.

The Community Fund, formed in 1966 to help Sun Citians with need, has also contributed to 26 organizations. Recently, in an outreach beyond the community, a generous gift from the fund went to the Westside Food and Clothing Warehouse that meets emergency needs of persons on the westside of the Salt River Valley.

The community has built or is in the process of building 17 churches of many denominations, each traditionally supporting missionaries and social needs.

Eight hundred members of the Friends of the Library donated 25,591 hours in four years time to the Sun City Library.

Clubs organized around the hobby and craft facilities in Sun City's recreation centers are among the most productive in bolstering charitable causes.

Woodworking shops, for instance, in good neighbor efforts made 269 chairs for the Arizona Crippled Children's Colony, wooden toys and blocks for the Glenhaven Retarded Pre-school Children, and bed-boards for the Sunshine Service.

Ceramic, mosaic and clay clubs contribute to charities and scholarships and local organizations of national clubs contribute to a myriad of causes. Sewing clubs, too, use their talents to boost giving, and singing and handbell ringing groups give of their hearts and talents for worthy projects.

The Walter O. Boswell Memorial Hospital Auxiliary story is one of work and dedication, with thousands of hours logged in volunteer service. Through the auxiliary's efforts several pieces of valuable equipment have been added to the hospital.

Leading money producer for the hospital is the Resident's Gallery, conducted by the auxiliary. There, Sun Citians sell their craft work on consignment with one-third the price going to the Gallery. Sales have increased from \$22,600 in 1969 to \$88,200 in 1973. The Webb Co. thoughtfully furnishes the space, rent free for the Gallery.

In the last five years more than 1300 consignors brought merchandise to the Gallery in the Sun Bowl Plaza Shopping Center. During each month 135 auxiliary members volunteer 1800 hours service.

The Gallery, of course, is of twofold benefit. It makes money for the hospital and serves as a needed outlet for products created by Sun Citians.

The untold hours of work by individuals is a story in itself. And, Mrs. Elizabeth Sullivan, 83, is a case in point.

Her self-appointed goal is to sew an average of a dress a day for the poor. Already she has cut out, fashioned and sewed 1,000 dresses. Most are channeled through the Catholic Church, some to children in El Mirage. Others go to charitable organizations.

"Get busy," she advises seniors. "The day is twice as long if you are idle."

"I have a wonderful time," she adds.

Work of Sun Citians in another sphere is indicated in the Sun City Sheriff's Posse, a helping arm to the Maricopa County Sheriff's Office.

Fifty men and four women were sworn into office initially by Sheriff Paul Blubaum. Others have since been processed for the ranks.

The list of clubs and groups serving this active community could go on and on. But, a cross section does indicate the mood and the spirit of Sun City.

It's quite true — Sun Citians are just too busy to retire. □

Sun City . . . A Very Special Place

We are not here to sell Sun City. We are here to praise Sun City, Arizona, and to pay tribute with editorial testimony to the developers, workers and residents of one of Arizona's important and vital communities.

The words, Golden Age, come to mind when we think of Sun City. Why Golden Age? When is it? And where?

Sun City, Arizona is a most radiant example of an alchemic transmutation where common human qualities and basic earthy substance have produced the Golden Age standard of the world in planned community developments.

Sun City, founded only fourteen years ago, is a young city. At year's end of 1960 its population was approximately 2,500. Today it is more than 33,000 and growing daily, attesting to the fact that Sun City's rate of growth is five times that of the State of Arizona and that of Maricopa County.

Whatever the negative aspects of inflation — sure results of the process — rising prices of real property and increased rentals and leases are inevitable. Sun City is a profitable and enduring investment. Fourteen years ago, the first homes sold for \$8,500 to \$11,300. Those same properties if offered for resale today will bring three times the original price. For the citizen in the Golden Age of his life, Sun City assures more for his money than anywhere else. The quality of Sun City homes today, and their prices are commensurate with contemporary life styles and increased building costs, with prices starting at \$25,000 minimum. The Sun City Model Home Pavilion is a miniature World's Fair exhibit setting a world standard for design, interior decorating and landscaping. All models are shown with golf course, lakeside and enclosed patio situations. Our favorite conversation piece is the star of the show, with swimming pool in the foyer, mirrored ceiling and fire engine red enamelled bathtub — for Golden Agers with a Beverly Hills complex.

Sun City is a haven for those who believe in a community being self-reliant. This utopian concept can work only where the individual's financial stability and independence assures a bulwark against corruption in civic and political endeavors.

Most Sun Citians were somebodies, from somewhere else. They left their dejections and ineptitudes behind and brought with them a limitless pool of experience which has resulted in a community spirit transcending "home-town" differences.

It is the inborn desire of American life to seek a good measure of life, liberty and the pursuit of Happiness. Sun City is a beautiful chapter in the history of civilized man's record of searching for room, for room means freedom, dignity, composure and perspective.

Sun City is no longer an experiment in the American stake. The wealth of knowledge gained through the evolution and development of Sun City has benefited and upgraded all planned communities irrespective of life style.

We see in Sun City, Arizona a festival of diverse interests of civic, commercial, social, patriotic and aesthetic endeavors and accomplishments unmatched in promise and performance anywhere in the world.

Sun City, Arizona is one of the most wonderful things that has happened in the United States of America.

And in a world of beautiful places and wonderful things — that's something very special.

JOSEPH STACEY

Any questions? Write: Del E. Webb Development Co., P.O. Box 555, Sun City, Arizona 85351.

Of the 7,300 acres presently developed in Sun City, 1,200 are devoted to golf, prompting writers to frequently describe it as a "golfer's paradise." But whether one is a golfer or not the nine courses make Sun City a beautiful open green place to live.

During 1973 nearly one-half million rounds were played on Sun City's courses.

With such a wide selection of courses it logically follows that Sun City is the scene of many golf tournaments. The first major tournament held there was in 1963 when the U.S. National Seniors Open was played on Sun City North.

In 1973 the \$10,000 Sun City Second Tour P.G.A. Tournament was born on Riverview Golf Course. In 1974, this satellite tourney featuring the touring pros who miss qualifying for the Phoenix Open was played on the Sun City South Course.

RIGHT:

Arizona's tallest sundial stands in front of Sundial Recreation Center, one of five lavish complexes providing Sun Citians with over \$7 million worth of facilities for recreation, arts and crafts, lectures, concerts, club meetings and social events.

ALL PHOTOGRAPHS BY
WES GRANT
(unless otherwise credited)

BELOW:

Water, sun, flowers and a lot of imagination have turned this backyard at Galleria '74 (Sun City's model home show) into a garden oasis.



FOLLOWING PANEL — Pages 42-43 ►
*Lakeview Recreation Center and
Viewpoint Lake — JERRY LANDIS*









PAT HARPER





LEFT: 1200 emerald acres devoted to golf make Sun City a beautiful, open, green place to live; nine 18-hole courses make it a golfer's paradise.

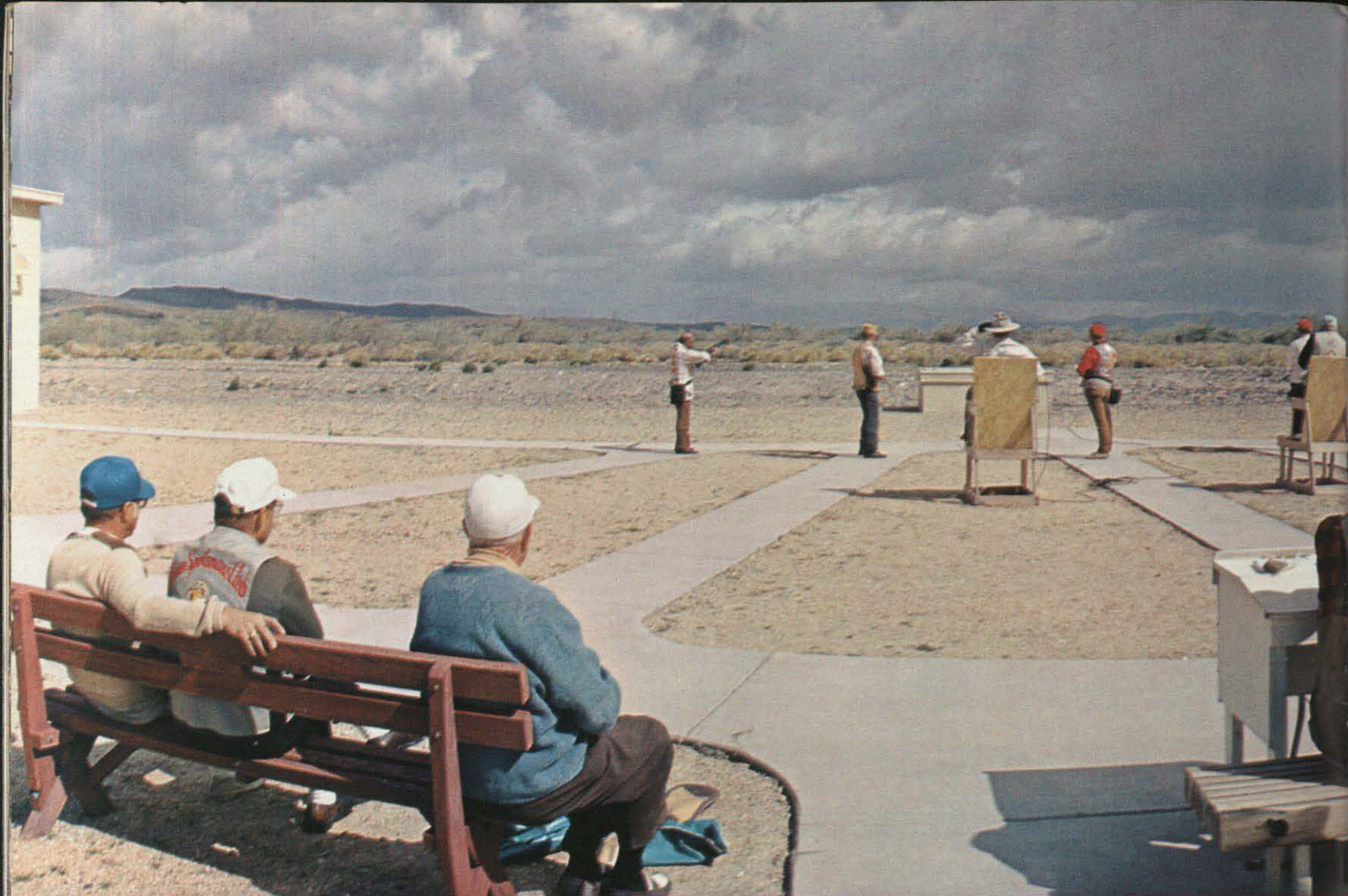
RIGHT: Vacationers from all parts of the world delight in the exotic landscaping of Galleria '74, Sun City's model home show.

BELOW: In the evening Viewpoint Lake becomes an azure mirror reflecting two of Arizona's architectural landmarks, the Walter O. Boswell Memorial Hospital (left) and the Lakes Club of Sun City (right).

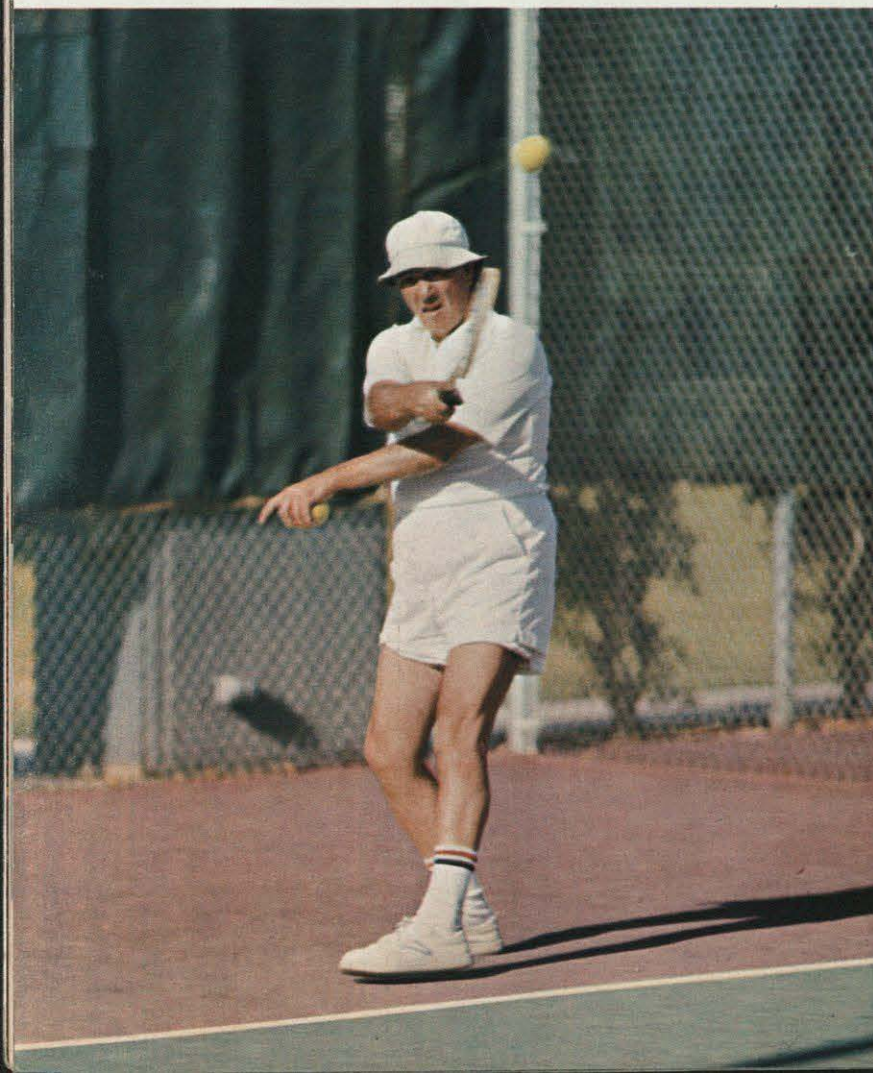


PAT HARPER





Members of the Recreation Centers of Sun City enjoy an exceptionally broad range of recreational activities. This not only indicates the variety of the facilities operated by the Centers, but also demonstrates the remarkable diversity and vitality of the people of Sun City. ABOVE: Trap shooting at the Heading Ranch.





PAT HARPER

Swimming, tennis, shuffleboard, lawn bowls, mini-golf, archery, trap and skeet shooting, fishing, bowling, billiards, working out with exercise apparatus or just relaxing in luxurious whirlpool baths . . . Recreation Centers of Sun City members can be just as "active" as they wish.

PAT HARPER



OUR CHANGING WEST

Our collection of Western memorabilia includes a brochure titled, "Grand Cañon," published by the Santa Fe Railroad in 1901, from which we reprint the following:

The Bright Angel Hotel, managed by Mr. J. W. Thurber, who also controls the stage line, trail stock, guides, etc., is a comfortable frame and log structure of eight rooms, with an annex of six rooms. The rates are \$3.00 per day, American plan; the accommodations are excellent. The reception room, heated by means of an old-fashioned fireplace, and tastefully carpeted with Indian rugs, is provided with capacious rocking chairs and a piano; the furnishing of the hotel throughout is very satisfactory. There is no "roughing it," but one must not expect city luxuries. A telephone line connects the hotel with the outer world at Williams.

While one ought to remain a week, a stop-over of three days from the trans-continental trip will allow practically two days at the Cañon. One full day should be devoted to an excursion down Bright Angel trail, and the other to walks and drives along the rim. Another day on the rim — making a four days' stop-over in all — will enable visitors to get more satisfactory views.

The round-trip ticket rate (rail and stage), Williams to Grand Cañon and return, is only \$10.00. Adding \$6.00 for two days' stay at Cañon hotel, \$2.00 for part of a day at hotel in Williams, \$2.50 for probable proportion of cost of guide, \$3.00 for trail stock, and the total necessary expense of the three days' stop-over is about \$25.00 for one person; each additional day only adds \$3.00 to the cost for hotel.

Since that time we have lived through economic and monetary theories and practices which cause us to wonder whether progress is worth the money. Despite the drop in the dollar value and the rising prices of gold and silver, the fact is that one receives more for his money in the United States of America than anywhere else on this planet. It will only take a seven day air-jet flight to seven nations suffering terminal cases of super-inflation to convince an American that there is something wonderfully healthy about a prosperity based on progress and profit. At times progress is not always glorious, nor profit equitably shared and deserved. Nevertheless, no American who has lived through two World Wars, The Great Depression and a series of Crises can deny that adversities have been the forge and fire which have improved our standards of endeavor and efficiency. It is with a feeling of great satisfaction that we look back over the road we thought was impassable and not regret the trouble we had been at to arrive where we are.


The roads of our pioneer founders did not just go somewhere and stop. Today our roads go everywhere and never stop. There is no retreating to frontiers. In building the world's greatest highways system — we have lost our frontiers. Those who live with memories of past generations have lost something which coming generations will never experience and certainly will never miss.

BACK ISSUES — ARIZONA HIGHWAYS

... At long last, after many hours of sorting and with the help of a number of loyal friends, I have reduced my stock of 8,500 back numbers of ARIZONA HIGHWAYS to some semblance of order, although my shelving situation is still far from satisfactory and I still have a great deal of work to do.

It would be of great help to me if patrons of ARIZONA HIGHWAY: in search of back numbers not in stock at your office might be referred to me. If you have no objection to having this done, I shall be most grateful if my card is kept in the back numbers section for referral to persons in search of issues not available there. Please drop by to see the newly-oriented shop. I am open daily (excepting Monday) from 1 to 6 p.m.

William B. Bishop
The Ostrich Farm
1510 West Garfield
Phoenix, Arizona 85007



HERB & DOROTHY MC LAUGHLIN

INSIDE BACK COVER

Mist shrouds the depths, view from Mather Point.

— DAVID MUENCH

BACK COVER

View through Angels Window, North Rim.

— JOSEF MUENCH

Library
Boston Architectural Center



